



Smithsonian
National Museum of American History
Kenneth E. Behring Center

Guide to the Grace Murray Hopper Collection

NMAH.AC.0324

Don Darroch

1990



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Collection Overview

Repository:	Archives Center, National Museum of American History
Title:	Grace Murray Hopper Collection
Identifier:	NMAH.AC.0324
Date:	1944-1965
Extent:	2.5 Cubic feet (7 boxes, 1 map-folder)
Creator:	Hopper, Grace Murray, 1906-1992 Physical Sciences, Division of (NMAH, Smithsonian Institution).
Language:	English .

Administrative Information

Acquisition Information

Grace Murray Hopper donated her materials to the National Museum of American History, Section of Mathematics in 1967 and 1968. The majority of the collection was donated through the Museum's Computer Oral History Project in 1972.

Provenance

Transferred from the Division of Physical Sciences to the Archives Center, February 6, 1989.

Related Materials

Materials at the Archives Center

Computer Oral History Collection (AC0196)

This collection contains five oral history interviews with Grace Murray Hopper conducted on: July 1, 1968; November 1, 1968; January 7, 1969; February 4, 1969; and July 5, 1972.

Processing Information

Collection processed by Don Darroch, 1990.

Preferred Citation

Grace Murray Hopper Collection, 1944-1965, Archives Center, National Museum of American History

Restrictions

Collection is open for research.

Conditions Governing Use

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Biographical / Historical

Grace Murray Hopper (1906-1992) obtained her Ph.D. in mathematics from Yale University in 1934. She was an associate professor of mathematics at Vassar College when she joined the Women's Reserve of the United States Navy, Women Accepted for Volunteer Emergency Service (WAVES) in 1944 and was assigned to the computing project at Harvard University. She served under Commander Howard H. Aiken as a Wave until 1946, and remained at Harvard's Computation Laboratory as a research fellow until 1949. In that year she joined the Eckert-Mauchly Computer Corporation as a senior mathematician. When Eckert-Mauchly became a division of Remington Rand, Hopper remained as senior programmer, a title she retained until 1959. Subsequently, she served as systems engineer and director of automatic programming development (1959-1964) and staff scientist in systems programming (1964-1971) for the UNIVAC division of Sperry Rand Corporation. Hopper retired from UNIVAC in 1972, having returned to active service in the U.S. Navy from which she eventually retired with the rank of Rear Admiral.

Scope and Contents

The material includes technical notes, operating instructions and descriptions relating to projects which Hopper participated in at Harvard during and after World War II and later in the private sector. These projects involved the creation of the Navy's Mark I, II and III "mechanical calculators" (the fore runners of today's computers) and the UNIVAC and ENIAC civilian models. The photographs document both equipment and Hopper with her colleagues at work and on social occasions. There are numerous published articles and memoranda by Hopper and others on various technical aspects of computers. Clippings of newspaper and magazine articles relating to computers and their development are also included, as well as periodicals and brochures. A "humor file" contains jokes and anecdotes collected by Hopper.

Much of the material is annotated by Hopper, primarily through notations on 3 x 5 white slips of paper. Some of the annotations by Elizabeth Luebbert, who served as a summer research assistant in the Museum's Computer History Project.

Arrangement

The collection is divided into eleven series.

Series 1: Technical Documents, 1944-1949

Series 2: Photographs of Mark II, 1948

Series 3: Photographs at Harvard, 1944-1945

Series 4: Reports and Articles, 1946-1948

Series 5: Eckert-Mauchly Computer Corporation, 1949-1965

Series 6: Compiling Routines, 1952-1954

Series 7: Press Clippings, 1944-1953

Series 8: Periodicals and Brochures, 1950-1953

Series 9: Humor file, 1944-1953

Series 10: Machine Tape, undated

Series 11: Audiovisual Materials, undated

Names and Subject Terms

This collection is indexed in the online catalog of the Smithsonian Institution under the following terms:

Subjects:

- Computer programming
- Computers
- Mathematicians
- Systems engineering
- Univac computer

Types of Materials:

- Articles -- 20th century
- Technical notes

Names:

- Physical Sciences, Division of (NMAH, Smithsonian Institution).
- Remington Rand.

Occupations:

- Computer programmers

Container Listing

Series 1: Technical Documents, 1944 - 1949

[Image\(s\)](#)

Box 1, Folder 1	Mark I plugging manual Image(s)
Box 1, Folder 2	Reprints of "The Automatic Sequence Controlled Calculator" by Aiken and Hopper, I and II. Image(s)
Box 1, Folder 3	IBM pamphlet, IBM Automatic Sequence Controlled Calculator. Program for A Symposium of Large Scale Digital Calculating Machinery,, 7-10 January 1947. (4 copies) Image(s)
Box 1, Folder 3	Program for A Symposium on Large-Scale Digital Calculating Machinery,, 13-16 September 1949. Image(s)
Box 1, Folder 3	Tables of constants for the Mark I. Image(s)
Box 1, Folder 3	I Random sequences of digits Image(s)
Box 1, Folder 3	II Random sequences of angles 000 to 360 Image(s)
Box 1, Folder 3	III Random normal deviates in units of standard errors Image(s)
Box 1, Folder 3	IV Binomial distribution function Image(s)
Box 1, Folder 3	V Normal distribution function Image(s)
Box 1, Folder 3	Poisson distribution Image(s)
Box 1, Folder 3	Tables of one over factorial (1/1 to 1/20)
Box 1, Folder 3	Powers of ten (0.1 to 0.9)

Box 1, Folder 3	Constants (pi, square roots, logs,)
Box 1, Folder 3	Reciprocals of numbers 1-99 Image(s)
Box 1, Folder 3	N factorial 1-12
Box 1, Folder 3	Log n factorial 1-100 Image(s)
Box 1, Folder 3	Powers of two 1-70 Image(s)
Box 1, Folder 3	Graph of trials of approximation Image(s)
Box 1, Folder 3	Coding card (code 1-8431, noting switches, counters, description, all on one card, two sheets of paper on cardboard, covered with plastic) Image(s)
Box 1, Folder 3	Duty officers, 23 April to 10 June, 1945 Image(s)
Box 1, Folder 3	Postcard from Newfoundland to "Computation Laboratory, Harvard University" date 13 Nov. 46 signature Howard Aiken on way to UNESCO; see Comrie Letters IBM P.6 Image(s)
Box 1, Folder 3	Operating Instructions for Problem J., typewritten by H.A. Arnold. Image(s)
Box 1, Folder 3	Watch schedule for Mark I when it was running, Problem L. Nov. 45 - 1 March 46, Problem L File.
Box 1, Folder 3	Staff List--Departments of Physics, Engineering Sciences, and Applied Physics,, 30 July 1947. Image(s)
Map-folder 1	Diagram of Mark I circuitry by Hopper
Box 1, Folder 4	Timing Diagram: Cams and relays involved in number transfer and schematic diagrams showing timing and principal control channels of Mark I, undated
Box 1, Folder 4	Schematic diagram: Number transfer circuits Mark I Diagram, undated

- Box 1, Folder 4 Multiplication Plugging diagram see also: Aiken and Hopper "The Automatic Sequence Controlled Calculator--III", Figure 6.
- Box 1, Folder 5 Formulas and coding for Problem G on the Mark I.
[Image\(s\)](#)
- Box 1, Folder 6 Successive Differences, undated
[Image\(s\)](#)
- Box 1, Folder 7 Photographs of blueprint drawings, contain all of the circuits of Mark I:
[Image\(s\)](#)
- Box 1, Folder 7 5/6/46 EHM Normal Storage Counter and Automatic Check Counter (2 copies)
- Box 1, Folder 7 5/17/46 EHM Switches, Independent Variable Switch and Special Storage Counters (2 copies)
- Box 1, Folder 7 5/28/46 EHM Counter Employed in Logarithm Unit
- Box 1, Folder 7 6/8/46 EHM Sequence-Start, Repeat, Stop-Cascade Relays - C Codes
- Box 1, Folder 7 6/11/46 EHM Multiplicand - Divisor Counter (Doubling)(2 copies)
- Box 1, Folder 7 6/19/46 CMC Sequence-Cascade Relays - B Codes Part I
- Box 1, Folder 7 6/21/46 CMC Sequence-Cascade Relays - B Codes Part II
- Box 1, Folder 7 6/24/46 EHM Dividend Counter
- Box 1, Folder 7 6/25/46 CMC Sequence-Cascade Relays - A Codes Part II
- Box 1, Folder 7 7/3/46 CMC Sequence-Cascade Relays - A Codes Part I
- Box 1, Folder 7 7/24/46 CMC Intermediate Counter - Sign Circuits
- Box 1, Folder 7 7/25/46 EHM Multiply, Divide Relay Panel (2 copies)
- Box 1, Folder 7 8/10/46 EHM Exponential Unit (2 copies)
- Box 1, Folder 7 8/13/46 CMC Product-Quotient and Quotient-Shift Counters
- Box 1, Folder 7 8/20/46 EHM Sine Unit - Sequencing (2 copies)

- Box 1, Folder 7 8/24/46 CMC Logarithm Unit - Control Circuits
- Box 1, Folder 7 8/31/46 EHM Sine In-Out Counter
- Box 1, Folder 7 9/4/46 CMC Multiply-Divide Sequencing Part I - Sequence Counter
- Box 1, Folder 7 9/26/46 MFF Multiplier and Multiplicand-Divisor (Single) Counters
- Box 1, Folder 7 11/8/46 MFF Tape Punch and Tape Register
- Box 1, Folder 7 12/5/46 MFF Sequence Readout Lights and Normalizing Register
- Box 1, Folder 7 1/14/47 MFF Print Counter and Typewriters
[Image\(s\)](#)
- Box 1, Folder 7 1/30/47 MFF Functional Relay Panel
- Box 1, Folder 7 3/21/47 LCK Interpolators - Counters and Switches
- Box 1, Folder 7 4/21/47 LCK Interpolators - Sequencing and Tape Reading
- Box 1, Folder 7 5/9/47 MFF Card Feeds and Punch
- Box 1, Folder 8 PROBLEM L by Grace Hopper unlined paper, two holes at top personnel who worked on different aspects of getting Problem L to run
[Image\(s\)](#)
- Box 1, Folder 9 (1) Problem L Operating Instructions marked in green pencil "First Set of Op. Inst." First two pages same as in GMH scrapbook with penciled corrections; third page is graph similar but not same as Figure I above; fourth page is similar to Table I above, also fifth page; sixth page is Plugging Instructions as above with red pencil changes; seventh page, Additional Operating Instructions with pencil changes.
[Image\(s\): Operating Instructions Problem L folder on operator's desk contents include:](#)
Operating Instructions for Problem L includes: Operating Instructions, Plugging Instructions, 2 Plugging Diagrams, Figure I - graph of values over which tapes run, Table I - table to check off values as computed from Grace Hopper's scrapbook.
- Box 1, Folder 9 (2) Problem L Operating Instructions 22 December 1944 Pages 1-2 Operating instructions 3 Test Point for Tables R4X, R4A, R4C, R4CZ, R4B 4 Note on Wronskion on graph paper, pencil doodles 5 Operating Instructions, 6 Directions for Testing 7-9 Test Tapes for Problem L: Storage Counters (back of p. 7 Sample Run Rolling and Reset Test) 10 Test Tapes for Problem L: Multiplication; (back of p. 10 Sample run Multiply Test); 11-12 Test Tapes for Problem L: Interpolator #3; 13 Plugging Diagram;

[Image\(s\): Operating Instructions Problem L folder on operator's desk contents include:](#)

- Box 1, Folder 9 (3) Determination of Which Machine Function is Causing Trouble, a debugging note to the operators; 1 Instructions; 2 Counter Diagram: Primed Quantities; 3 Counter Diagram: Unprimed Quantities
- Box 1, Folder 10 Problem L Coding a first draft by Hopper
[Image\(s\)](#)
- Box 1, Folder 11 Problem L Coding a second draft by Hopper
[Image\(s\)](#)
- Box 1, Folder 12 Problem L Coding final draft by Hopper
[Image\(s\)](#)
- Box 1, Folder 13 Calculation of the functions $h_1(z)$, $h_2(z)$, $H_1(z)$, $H_2(z)$. by Hopper; Part II: Method of Computation of the Functions in Hankel Functions book (Volume 2: Comp Lab Annals) pp. xxx-xxxii, a preliminary version
[Image\(s\)](#)
- Box 1, Folder 14 Problem L Report of the development of the coding for Problem L (?) by Hopper
[Image\(s\)](#)
- Box 1, Folder 15 Tables of the Modified Hankel Functions of Order One-Third and of Their Derivatives; by the Staff of the Computation Laboratory Volume 2 of the Annals of the Computation Laboratory xerox copy of title page through page 3 this is the result of Problem L
[Image\(s\)](#)
- Box 1, Folder 16 Invitation to Lieutenant Grace M. Hopper "to attend the Formal Acceptance Ceremonies of the Automatic Sequence Controlled Calculator" Monday, August 7, 1944, The Faculty Room of University Hall
[Image\(s\)](#)
- Box 1, Folder 17 Invitation to Lt. Hopper from Harold M. Westergaard, Dean of the Graduate School of Engineering "to attend an informal luncheon to be held... at one o'clock at the Harvard Faculty Club... before the ceremonies of formal acceptance of the Automatic Sequence Controlled Calculator."; place card lettered "Lt. Hopper" attached
[Image\(s\)](#)
- Box 1, Folder 18 Invitation to Dr. Grace Hopper: "President Conant requests the honor of your presence at luncheon in the Warburg Room of the Fogg Museum of Art on Tuesday, January the seventh at twelve-fifteen o'clock on the occasion of the Opening of The Computation Laboratory"; RSVP to Prof. Aiken, also envelope

- [Image\(s\)](#)
- Box 1, Folder 19 Letter to Hopper from C.B. Tompkins, 21 January 1947.
[Image\(s\)](#)
- Box 1, Folder 20 Request from Lt. (jg) Grace Murray HOPPER, USNR, WR (379475) to Officer-in Charge, BuShips, Computation Project (Howard Aiken) 18 April 1945 request to wear dress uniform as bridesmaid.
[Image\(s\)](#)
- Box 1, Folder 21 Work schedule Mark I, 1945-1946
[Image\(s\)](#)
- Box 1, Folder 22 Operating instructions, Problem L,, undated
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- Box 1, Folder 23 Coding sheets and directory, Mark I,, 1947
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- Box 1, Folder 24 Mark I Manual, notes on coding,, 1947
[Image\(s\)](#)
- Box 1, Folder 25 Envelopes used by Navy Project at Harvard.
- Box 2, Folder 1 Proposed Automatic Calculator for Dahlgren Proving Ground, by Howard H. Aiken, Comdr. USNR, Officer in Charge, and Robert V.D. Campbell, Ensign, USNR Report No. 13, Bureau of Ships Computation Project Harvard University, Cambridge, Massachusetts, November 1944.
[Image\(s\)](#)
- Box 2, Folder 2 Mark II coding sheets (1) Problem Sheet PRNC-NPG-68 (Rev. 12-49) Navy-DPPO PRNC, WASH., D.C. (4 copies) could do 30 lines of coding (2) an earlier version of the coding sheet (1 copy) could do 60 lines of coding
[Image\(s\)](#)
- Box 2, Folder 3 Layout of Mark II Original blueprint drawing by L.C.K., 16984
[Image\(s\)](#)
- Box 2, Folder 4 Description of a Relay Calculator [Mark II Manual] by the Staff of the Computation Laboratory; Harvard University Press, Cambridge, Massachusetts, 1949, Volume XXIV of the Annals of the Computation Laboratory.
- Box 2, Folder 5 Mark III: Number transfer circuits
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Series 2: Photographs of MARK II, 1948

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Box 2, Folder 7	(2) AA 965 Main Control Board and Wings Image(s)
Box 2, Folder 7	(3) Floor Plan of the Calculator Image(s)
Box 2, Folder 7	(4) AA 955 Operator's Table and Printers Image(s)
Box 2, Folder 7	(5) AA 1000 Cam Unit Image(s)
Box 2, Folder 7	(6) 8 January 1948 Tape Preparation Table Image(s)
Box 2, Folder 7	(7) March 1948 Relays: latch type below Image(s)
Box 2, Folder 7	(8) Cam Unit: details of cam-controlled Image(s)
Box 2, Folder 7	(9) Cam Unit: rear view showing arc suppression circuits and drive motor Image(s)
Box 2, Folder 7	(10) 8 January 1948 Control Panel: detail showing read-out lights Image(s)
Box 2, Folder 8	(11) Sequence Mechanism and Roller Panel Image(s)
Box 2, Folder 8	(12) 8 January 1948 Switches: left side of calculator [constants] Image(s)
Box 2, Folder 8	(13) Interpolators Image(s)
Box 2, Folder 8	(14) 8 January 1948 Functional Tape Preparation Unit

- [Image\(s\)](#)
- Box 2, Folder 8 (15) 8 January 1948 Tape Reading and Tape Punching Mechanisms
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- Box 2, Folder 8 (16) 8 January 1948 Control Tape Preparation Unit
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- Box 2, Folder 8 (17) Sequence Mechanism: detail showing sensing pins and control tape
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- Box 2, Folder 8 (18) Main Control Board: rear view showing sequence mechanisms
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- Box 2, Folder 8 (19) Interior of Relay Cubicle
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- Box 2, Folder 8 (20) Sequence Mechanism
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- Box 2, Folder 9 (21) Sequence Mechanism: interior view
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- Box 2, Folder 9 (22) Operating, Panel
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- Box 2, Folder 9 (24) Left Wing of Calculator: Interpolator Mechanisms
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- Box 2, Folder 9 (28) Detail of Tape-Reader and Tape-Punch
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	Image(s)
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Box 2, Folder 10	(32) Relay Bank and Rotary Switch Image(s)
Box 2, Folder 10	(33) Switches on Operator's Table, (more photographs, not in Mark II Manual) Image(s)
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Box 2, Folder 11	(44) 20 February 1948 Crates on truck at Harvard, ready to go to Dahlgren

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Series 3: Photographs at Harvard, 1944-1945

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- Box 3, Folder 1 (3) Livingston and Campbell setting constant switches no later than August 1944.
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- Box 3, Folder 1 (4) Cmdr. Aiken and Lt. Hopper looking at interpolator, no later than August 1944.
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- Box 3, Folder 1 (5) Grace Hopper upon graduation from Midshipman's School 27 June 1944
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- Box 3, Folder 1 (6) Staff Portrait, at the time of the dedication, August 1944 top: Hawkins, Livingston, Knowlton, Bissell, Wheatland; middle: Bloch, Arnold, Aiken, Hopper, Campbell; bottom: Calvin, White, Verdonck
- Box 3, Folder 1 (7) Staff Portrait, at the time of the dedication, August 1944 top: Bissell, Calvin, Verdonck, Livingston, White; bottom: Bloch, Arnold, Aiken, Hopper, Campbell.
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- Box 3, Folder 1 (9) Bissell, Lt. Hopper, Verdonck same spot outside Cruft 1944 or 1945.
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- Box 3, Folder 1 (10) Bissell outside someone's back door, 1944 or 1945; (2 copies)
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- Box 3, Folder 1 (11) Lt. Hopper in dress whites in front of ivy covered wall, 1944 or 1945.
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- Box 3, Folder 1 (12) Lt. Hopper and Spec. White examining sequence mechanism, pre-August 1944; also clipping of same form: Harvard Crimson Service News, 8 August 1944.
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- Box 3, Folder 1 (13) View of the Mark I, light up, from storage counters toward printers, with Bloch looking at printer output; pre-August 1944: also clipping of same, Harvard Service News, 8 August 1944.

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- Box 3, Folder 1 (14) Navy Specialists Operators of the Mark I, in front of the Mark I. L to R: White, Livingston, Calvin, Bissell, August 1944. (15) Calvin looking at typewriter and output, 1944.
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- Box 3, Folder 1 (18) Mark I composite photo straight on,, 1944 or 1945.
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- Box 3, Folder 1 (19) Mark I from typewriters toward constant switches,, 1944 or 1945.
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- Box 3, Folder 1 (20) Mark I from constant switches towards typewriters,, 1944 or 1945. MISSING
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- Box 3, Folder 2 (21) Livingston in front of a house,, 1944 or 1945.
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- Box 3, Folder 2 (23) White, seated in chair, looking at book,, 1944 or 1945.
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- Box 3, Folder 2 (24) Livingston operating tape punch,, 1944 or 1945.
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- Box 3, Folder 2 (26) Four scenes of winter of 1945 along Massachusetts Avenue near Cruft Laboratory.
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- Box 3, Folder 2 (28) Grace Hopper walking across the yard near Cruft Lab (1945 to 1949 (?))

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- Box 3, Folder 2 (29) Bob Campbell at table in Cruft Lab , pre-1947 (2 copies).
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- Box 3, Folder 3 (30) Cheers!" L to R: Bloch at piano, Aiken, Hopper, Brendel, Campbell (4 copies).
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- Box 3, Folder 3 (31) Hopper and Campbell in front of fireplace with microphone
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- Box 3, Folder 3 (32) Campbell with apron on, drinking
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- Box 3, Folder 3 (33) Campbell, with apron on, at microphone
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- Box 3, Folder 3 (34) View of the party L to R: Hopper (partially obscured), Campbell, Priscilla (Bloch's 1st wife), Bloch, ?
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- Box 3, Folder 3 (41) Aiken chopping wood for a fire
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- Box 3, Folder 3 (44) Down the path Aiken in khaki, Hopper towing little red wagon
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- Box 3, Folder 3 (46) Bus parked in backyard of Grace Hopper's parents country home in New Hampshire ? furthest right, Aiken bending
[Image\(s\)](#)
- Box 3, Folder 3 (47) Bus parked in backyard of Hopper's parents country home in New Hampshire. Mr. and Mrs. Murray (her parents) are the two furthest right sitting in chairs
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- Box 3, Folder 3 (50) The Iceman Cometh, getting ice before the trip L to R: Hawkins, Campbell, Bloch, Livingston, Aiken, Iceman, Bissell
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- Box 3, Folder 3 (51) Another iceman picture L to R: Hawkins, Bloch, Livingston, Aiken, iceman
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- Box 3, Folder 3 (52) A rest stop on the trip L to R: Aiken, Calvin, Bissell and Bloch after each other, Campbell holding his wife's arm, Arnold looking on, Livingston beside Campbell, Lt. from Dahlgren by door of bus, White on other side of door, Hopper in doorway
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- Box 3, Folder 3 (53) A rest stop on the trip (same house as above picture) L to R: Hopper at door of bus accepting liquid refreshment from Bissell by driver's seat
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- Box 3, Folder 4 (54) Steeple of Harvard's Memorial Church in the Harvard Yard as seen from the science buildings

- [Image\(s\)](#)
- Box 3, Folder 4 (55) Basement of Cruft Lab, 9 September 1945
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- Box 3, Folder 4 (56) Working on the blueprints for the Mark II 27 September 1945; L to R: Aiken, Campbell, Miller, ? , Wilkins
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- Box 3, Folder 4 (59) Working on the plugging of the Mark II, 1946. L to R: Hourihan, Huntsberger, Roche, Hawkins
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- Box 3, Folder 7 Official Register of Harvard University (Volume XLIII, 25 September 1946, No. 25)
[Image\(s\): Official Register of Harvard University \(Volume XLIII, 25 September 1946, No. 25\) Department of Engineering Sciences and Applied Physics, containing an announcement for 1946-1947; published by the University * Cambridge, Massachusetts. Includes: photo of Mark I \(p. 52\); half-page on Computation Laboratory \(p. 53\); Research Course 20t. \(Professor Aiken\) Numerical Analysis and Design of Calculating Instruments \(p. 48\).](#)
 Department of Engineering Sciences and Applied Physics, containing an announcement for 1946-1947; published by the University * Cambridge, Massachusetts. Includes: photo of Mark I (p. 52); half-page on Computation Laboratory (p. 53); Research Course 20t. (Professor Aiken) Numerical Analysis and Design of Calculating Instruments (p. 48).
- Box 3, Folder 8 Harvard University Press. Fall Books,, 1946
 Mathematics section, page 20: A Manual of Operation for the Automatic Sequence Controlled Calculator by the Staff of the Computation Laboratory; short description of contents, pages, diagrams, Tables of the Modified Hankel Functions of Order One-Third and of Their Derivatives, by the Staff of the Computation Laboratory, mentions importance of tables, pages,
- Box 3, Folder 9 Harvard University: The President's Report , 1946
 Promotion to Professor (p. 25); Howard Hathaway Aiken -Professor of Applied Mathematics. Appointments to Associate Professorship (p. 27); Donald Howard Menzel -Associate Director for Solar Research in the Harvard College Observatory.
- Box 3, Folder 10 Journal of Applied Physics (Volume 17, Number 10 -October 1946) Section: Here and There (page 856); Harvard Computation Laboratory Comp. Lab, general use of Mark I. Drawings: First Floor Plan, Comp Lab (p. 856). Drawing of outside front view (cover).
[Image\(s\)](#)
- Box 3, Folder 10 Science Vol. 104, No. 2712 Friday, 20 December 1946 (pp. 581-608): NRC [National Research Council] News (p. 595) Division of Physical Sciences announces formation of new Committee on High-Speed Calculating Machines. Chairman: John von Neumann, Members: Howard H. Aiken, Walter Bartky, Samuel H. Caldwell, George R. Stibitz, Warren Weaver, to study principles and possibilities of machines to find ways of increasing speed of computation to distribute information to interested parties.
- Box 3, Folder 11 Mathematical Tables and other Aids to Computation. Published by the National Research Council; A Quarterly Journal edited on behalf of the Committee on Mathematical Tables and Other Aids to Computation by Raymond Clare Archibald (and) Derrick Henry Lehmer. Copies as of July 19, 1972:
- Box 3, Folder 11 Number 16 October 1946

- Box 3, Folder 11 Number 18 April 1947
- Box 3, Folder 11 Number 20 October 1947
- Box 3, Folder 12 Mathematical Tables and other Aids to Computation. Published by the National Research Council; A Quarterly Journal edited on behalf of the Committee on Mathematical Tables and Other Aids to Computation by Raymond Clare Archibald (and) Derrick Henry Lehmer. Copies as of July 19, 1972:
- Box 3, Folder 12 Number 21 January 1948
- Box 3, Folder 12 Number 22 * April 1948 (2 copies)
- Box 3, Folder 12 Number 23 July 1948
- Box 3, Folder 12 Number 24 October, 1948
- Box 3, Folder 13 Electrical Engineering
Published monthly by the American Institute of Electrical Engineers; Editor --G. Ross Henninger. Volume 65, Numbers 8-9, August-September 1946; Number 10, October 1946; Number 11, November 1946 (These contain the articles by Aiken and Hopper on the Mark I)
- Box 4, Folder 1 Report No. 25, Bureau of Ordnance Computation Project, Harvard University, Cambridge, Massachusetts
[Image\(s\): Report No. 25, Bureau of Ordnance Computation Project, Harvard University, Cambridge, Massachusetts Nord -8555, TASK C. Auxiliary Functions for the Computation of the Moments of an Ogive, by Joseph O. Harrison, Jr., August 1946.](#)
Nord -8555, TASK C. Auxiliary Functions for the Computation of the Moments of an Ogive, by Joseph O. Harrison, Jr., August 1946.
- Box 4, Folder 2 Report No. 27, Bureau of Ordnance Computation Project, Harvard University, Cambridge, Massachusetts.
[Image\(s\): Report No. 27, Bureau of Ordnance Computation Project, Harvard University, Cambridge, Massachusetts. The Numeroscope, An Electronic-Photographic Printer for Large-Scale, High-Speed Calculating Machines, by Harrison W. Fuller January, 1947](#)
The Numeroscope, An Electronic-Photographic Printer for Large-Scale, High-Speed Calculating Machines, by Harrison W. Fuller January, 1947
- Box 3, Folder 3 Popular Science Monthly (Volume 150: No. 5 -May 1947). "
[Image\(s\): Popular Science Monthly \(Volume 150: No. 5 -May 1947\). "Inside the Biggest Man-made Brain: Navy's new calculator has steel bones, silver nerves, paper impulses, and can make mistakes" by Stephen L. Freeland \(pp. 95-100\). Mark II photographs: 6 men holding some of the wiring; angled view of main panel board; floor plan; printers and test panels; view over top looking at relay](#)

[cubicles; composite front view of calculator; easy removal for replacement of stepping switches](#)

Inside the Biggest Man-made Brain: Navy's new calculator has steel bones, silver nerves, paper impulses, and can make mistakes" by Stephen L. Freeland (pp. 95-100). Mark II photographs: 6 men holding some of the wiring; angled view of main panel board; floor plan; printers and test panels; view over top looking at relay cubicles; composite front view of calculator; easy removal for replacement of stepping switches.

Box 3, Folder 3

Office Work at Electronic Speed,

Article for submission to the magazine The Office. Tissue paper copy of original 6 pages seems to be about early 1948 (Mechanical brains complete SSEC and Mark II); 3 pages history and explanation of function, 3 pages possibilities and probable features for office work.

Box 3, Folder 4

Schedule "A" Electronic Machine

[Image\(s\): SCHEDULE "A" ELECTRONIC MACHINE wet copy process copy of original 8 pages. Date: "8-48\(36" \(in top right corner of first page\); penciled note on top of first page, "Jane is waiting for schedule "C" from Berkley"; part of an agreement \(unknown at this time\) for an electronic machine with magnetic tape memory, input, and output and fast memory of mercury tanks to be used in the business of life insurance \(see 1.b.\).](#)

Wet copy process copy of original 8 pages. Date: "8-48(36" (in top right corner of first page); penciled note on top of first page, "Jane is waiting for schedule "C" from Berkley"; part of an agreement (unknown at this time) for an electronic machine with magnetic tape memory, input, and output and fast memory of mercury tanks to be used in the business of life insurance.

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- Box 4, Folder 5 Coding of a LaPlace Boundary Value Problem for the UNIVAC by Frances E. Snyder (=Betty Holberton) and Hubert M. Livingston. , 1949
[Image\(s\): Coding of a LaPlace Boundary Value Problem for the UNIVAC by Frances E. Snyder \(=Betty Holberton\) and Hubert M. Livingston. Reprinted from MATHEMATICAL TABLES AND OTHER AIDS TO COMPUTATION, III, Number 25, January, 1949, pages 341-350.](#)
 Reprinted from MATHEMATICAL TABLES AND OTHER AIDS TO COMPUTATION, III, Number 25, January, 1949, pages 341-350.
- Box 4, Folder 5 Program of Association for Computing Machinery: Oak Ridge, Tennessee , April 18-29 1949
[Image\(s\): Program of Association for Computing Machinery: Oak Ridge, Tennessee April 18, 19, 20, 1949. Sponsored by Oak Ridge National Laboratory, Oak Ridge Institute of Nuclear Studies, Carbide and Carbon Chemicals Corporation, Fairchild Corporation, NEPA Division: includes Grace Hopper's pen and pencil notes; job hunting time for her -offers she was made. Mark II Manual; 38 x 38 matrix in 59 1/2 hours included complete checking.](#)
 Sponsored by Oak Ridge National Laboratory, Oak Ridge Institute of Nuclear Studies, Carbide and Carbon Chemicals Corporation, Fairchild Corporation, NEPA Division: includes Grace Hopper's pen and pencil notes; job hunting time for her -offers she was made. Mark II Manual; 38 x 38 matrix in 59 1/2 hours included complete checking.
- Box 4, Folder 5 BINAC Instructions by Grace Hopper, 7/20/49
[Image\(s\): BINAC INSTRUCTIONS by Grace Hopper, 7/20/49](#)
- Box 4, Folder 5 Report A-MP-3B on BINAC, 8/1/49; by AAK (Arthur A. Katz)
- Box 4, Folder 5 Topic List for Numerical Analysis, 8/1/49. Report A-TC-2B by HFMjr (Herbert F. Mitchell, Jr.)
[Image\(s\)](#)
- Box 4, Folder 5 Matrix Algebra on the BINAC , 8/10/49
[Image\(s\): Matrix Algebra on the BINAC 8/10/49. Report A-230-2B and A-240-3B bu HFMjr \(Herbert F Mitchell, Jr.\) 5 pages; a copy of the original \(wet copy process of the time\) first attempt at matrix operations on the BINAC.](#)
 Report A-230-2B and A-240-3B bu HFMjr (Herbert F Mitchell, Jr.) 5 pages; a copy of the original (wet copy process of the time) first attempt at matrix operations on the BINAC.
- Box 4, Folder 5 Demonstration problem flowchart, , 8/15/49
[Image\(s\): Demonstration problem flowchart, 8/15/49 \(16 1/2 x 22"\) by MKL \(Margery K. League\); a copy of the original \(wet copy process of the time\) looks somewhat like a ditto.](#)
 (16 1/2 x 22") by MKL (Margery K. League); a copy of the original

- Box 4, Folder 5 Matrix Inversion Routine for the BINAC, 9/23/49
Image(s): Matrix Inversion Routine for the BINAC, 9/23/49. Report A-240-3B by Herbert F. Mitchell, Jr.; 4 typed pages. P. 5 is a table for symbol position in the coding, p. 6 and 7 are flowcharts Matrix Inversion I and II drawn by Helen M. Diehl at Mitchell's direction.
Report A-240-3B by Herbert F. Mitchell, Jr.; 4 typed pages. P. 5 is a table for symbol position in the coding, p. 6 and 7 are flowcharts Matrix Inversion I and II drawn by Helen M. Diehl at Mitchell's direction.
- Box 4, Folder 5 Eckert-Mauchly Computer Corporation List of Personnel , October 24, 1949
Image(s): Eckert-Mauchly Computer Corporation List of Personnel, October 24, 1949. 7 pages original ditto copy also 1 xerox copy -1970 vintage (1 copy by wet copy process -1950 vintage).
7 pages original ditto copy also 1 xerox copy, 1970 vintage (1 copy by wet copy process, 1950 vintage).
- Box 4, Folder 5 Two Year's Work in Five Minutes: That's what BINAC can do! , 1949
Image(s): Two Year's Work in Five Minutes: That's what BINAC can do! The story of this newest electronic brain" is a report on progress of Philadelphia's newest industry." Reprint from the October, 1949, issue of PHILADELPHIA Magazine; 3 pages, xerox copy of same.
The story of this newest electronic brain" is a report on progress of Philadelphia's newest industry." Reprint from the October, 1949, issue of PHILADELPHIA Magazine; 3 pages, xerox copy of same.
- Box 4, Folder 5 Grace Hopper's first code card for BINAC (3 x 5 card, in yellow envelope)., circa 1949
Image(s): Grace Hopper's first code card for BINAC (3 x 5 card about 1949, in yellow envelope).
- Box 4, Folder 5 Invitation by The Eckert-Mauchly Computer Corporation, 1949
Image(s): Invitation by The Eckert-Mauchly Computer Corporation "to attend a demonstration of the new electronic binary automatic computer BINAC": with space to write in person invited and date; 1949, 3 copies (one in an envelope) also 2 xerox pages of the invitation.
Invitation to attend a demonstration of the new electronic binary automatic computer BINAC": with space to write in person invited and date; 1949, 3 copies (one in an envelope) also 2 xerox pages of the invitation.
- Box 4, Folder 5 The BINAC: A Product of the Eckert-Mauchly Computer Corporation., 1949
Image(s): The BINAC: A Product of the Eckert-Mauchly Computer Corporation. Copyright 1949 by Eckert-Mauchly Computer Corporation; 8 page pamphlet on the BINAC (to be given to people attending the demonstrations?)
Copyright 1949 by Eckert-Mauchly Computer Corporation; 8 page pamphlet on the BINAC (to be given to people attending the demonstrations?)
- Box 4, Folder 5 Mechanical Brains: , 1949
Image(s): Mechanical Brains: An entirely new class of high-speed automatic computing machines, with rudimentary organs of memory, judgment, and

- [mathematical logic, points to the second industrial revolution By Louis N. Ridenour. Reprinted from Fortune Magazine. Copyright 1949 TIME Inc. \(4 pages, including title page photographs: plugboards of ENIAC, A Mercury Memory Organ\).](#)
- An entirely new class of high-speed automatic computing machines, with rudimentary organs of memory, judgment, and mathematical logic, points to the second industrial revolution By Louis N. Ridenour. Reprinted from Fortune Magazine. Copyright 1949 TIME Inc. (4 pages, including title page photographs: plugboards of ENIAC, A Mercury Memory Organ).
- Box 4, Folder 5 An Introduction to The UNIVAC System.
[Image\(s\): An Introduction to The UNIVAC System. The information herein is not for publication, and is to be held confidential. Return to Eckert-Mauchly Computer Corporation, Broad and Spring Garden Streets Philadelphia 23, PA.](#)
The information herein is not for publication, and is to be held confidential. Return to Eckert-Mauchly Computer Corporation, Broad and Spring Garden Streets Philadelphia 23, Pennsylvania.
- Box 4, Folder 5 Table of Computers, circa 1949
[Image\(s\): Table of Computers, c. 1949 \(17 x 11"\) by Grace Murray Hopper. Lists: Agency, Type, Memory Type, Registers, Number System, Decimal Point, Multiply Time, Input, Output, Matrix, Computers: Mark I \(ASCC\), Bell Relay, ENIAC, Mark II, BINAC, Mark III, Whirlwind I, Hurricane, Maniac, EDVAC, and UNIVAC.](#)
(17 x 11") by Grace Murray Hopper. Lists: Agency, Type, Memory Type, Registers, Number System, Decimal Point, Multiply Time, Input, Output, Matrix, Computers: Mark I (ASCC), Bell Relay, ENIAC, Mark II, BINAC, Mark III, Whirlwind I, Hurricane, Maniac, EDVAC, and UNIVAC.
- Box 4, Folder 5 Demonstration Problem for BINAC, 3/11/49
Report A -X -3: Section A collates octal-coded decimal quantities Section B converts these quantities to binary notation, computes, and reconverts computed quantities to octal-coded decimal notation.
- Box 4, Folder 5 Proposed 7 pulse code for UNIVAC with odd checking pulse, Code C-10 by F.E.S. (Frances Elizabeth Snyder), 5/6/49
[Image\(s\): Proposed 7 pulse code for UNIVAC with odd checking pulse, 5/6/49. Code C-10 by F.E.S. \(Frances Elizabeth Snyder\)](#)
- Box 4, Folder 5 UNIVAC Instructions code C-10 by F.E.S. (Frances Elizabeth Snyder), 5/6/49
- Box 4, Folder 5 UNIVAC Instructions Code C-10 by F.E.S. (Frances Elizabeth Snyder), 6 May 1949.
- Box 4, Folder 6 UNIVAC Instructions C-10, 1949
[Image\(s\): UNIVAC Instructions C-10, 6/10/49, by F.E.S. \(Frances Elizabeth Snyder\). 6 pages first page stamped "Second Draft", GMH initial at top of first](#)

page pencil corrections, pages 1, 2, 3, 4, page 6: Code C-10 Times in Minor Cycles 8/31/49 by FES

6/10/49, by F.E.S. (Frances Elizabeth Snyder). 6 pages first page stamped "Second Draft", GMH initial at top of first page pencil corrections, pages 1, 2, 3, 4, page 6: Code C-10 Times in Minor Cycles 8/31/49 by FES (Frances Elizabeth Snyder)

- Box 4, Folder 6 Matrix Multiplication Routine for the BINAC,, 9/23/49
 Image(s): Matrix Multiplication Routine for the BINAC, 9/23/49. Report 230-2b (same as A-230-2B) by HFMjr (Herbert F. Mitchell, Jr.) 21 pages. Pages 1-6 report, 7-9 Tables I to III, 10-11 Explanation of Symbols, 12 table of symbols for coding purposes, 13 Flowchart for Matrix Multiplication drawn by HD (Helen Diehl), 14 Flowchart for Conversion of $[C]_{n,m}$ into $[CHI]_{n,2n}$, 15-21 coding.
 Report 230-2b (same as A-230-2B) by HFMjr (Herbert F. Mitchell, Jr.) 21 pages. Pages 1-6 report, 7-9 Tables I to III, 10-11 Explanation of Symbols, 12 table of symbols for coding purposes, 13 Flowchart for Matrix Multiplication drawn by HD (Helen Diehl), 14 Flowchart for Conversion of $[C]_{n,m}$ into $[CHI]_{n,2n}$, 15-21 coding.
- Box 4, Folder 6 Addendum, The Barber-Colman Computer: Properties as of September 22, 1949, , 1949
 Image(s): ADDENDUM The Barber-Colman Computer: Properties as of September 22, 1949, Barber-Colman Co., Rockford, Ill. 8-95(70 Edition of September 28, 1949 by E.C.B., 3 pages. Note: "A study model of the computer has been actually operating under test since May, 1949.Ó
 Barber-Colman Co., Rockford, Ill. 8-95(70 Edition of September 28, 1949 by E.C.B., 3 pages. Note: "A study model of the computer has been actually operating under test since May, 1949.
- Box 4, Folder 7 UNIVAC Instruction Code C-10, , 1950-01-27
 Image(s): UNIVAC Instruction Code C-10, 1/27/50 by FES (Frances Elizabeth Snyder), 15 pages: p. 11, Additional Information for Code C-10; p. 14, Pulse Code (2 copies, one initialed G. M. Hopper on pages 1, 11, and 14).
 By FES (Frances Elizabeth Snyder), 15 pages: p. 11, Additional Information for Code C-10; p. 14, Pulse Code (2 copies, one initialed G. M. Hopper on pages 1, 11, and 14).
- Box 4, Folder 7 Solution of Matrix Equations of High Order by an Automatic Computer,, 2/2/50
 Image(s): Solution of Matrix Equations of High Order by an Automatic Computer, 2/2/50: A-240-3 and A-240-4 by Herbert F. Mitchell, Jr., 23 pages; pages 1-19 text, 20-22 appendix, 23 Table I.
 A-240-3 and A-240-4 by Herbert F. Mitchell, Jr., 23 pages; pages 1-19 text, 20-22 appendix, 23 Table I.
- Box 4, Folder 7 Outline for First Lecture: Programming Course for EMCC's Engineers; A-TC-7 by HFM jr (Herbert F. Mitchell, Jr.), 4 pages., 4/4/50

- [Image\(s\): Outline for First Lecture: Programming Course for EMCC's Engineers, 4/4/50; A-TC-7 by HFM jr \(Herbert F. Mitchell, Jr.\), 4 pages.](#)
- Box 4, Folder 7 Outline for Second Lecture: Programming Course for EMCC's Engineers; A-TC-7, no author but probably by H.F. Mitchell (see First Lecture), 2 pages., 11 April 1950
[Image\(s\): Outline for Second Lecture: Programming Course for EMCC's Engineers, 11 April 1950; A-TC-7, no author but probably by H.F. Mitchell \(see First Lecture\), 2 pages.](#)
- Box 4, Folder 7 Binary and Excess --Three Systems April 27, 1950: A-140-8 by AAK (Arthur A. Katz), original 11 June 1949; revised, 27 September 1949; revised 27 April 1950.
[Image\(s\)](#)
- Box 4, Folder 7 Memo to Mr. J.P. Eckert, Jr. from Miss Betty Snyder. Subject: Table of Percents of Total UNIVAC Time Utilized by Various Operations, DP-16; Code C-10, 8 July 1950
[Image\(s\): MEMO to Mr. J.P. Eckert, Jr. from Miss Betty Snyder. Subject: Table of Percents of Total UNIVAC Time Utilized by Various Operations, DP-16; Code C-10, 8 July 1950.](#)
- Box 4, Folder 7 Flow Chart Symbols, MP-2 by Arthur A. Katz, 15 June 1950
[Image\(s\): Flow Chart Symbols, 15 June 50, MP-2 by Arthur A. Katz](#)
- Box 4, Folder 7 Memoranda for Henry W. Schrimpf, Methods Analyst, re: ONR Mathematical Computing Advisory Panel Meeting , 8 June 1950
[Image\(s\): MEMORANDUM for Henry W. Schrimpf, Methods Analyst, re: ONR Mathematical Computing Advisory Panel meeting of 8 June 1950 by R.B. Thornley, Systems Reviewer, 15 June 1950; 8 tissue paper sheets, pages 1-5 report of the meeting, 6-7 agenda of the meeting, 8 table: comparative figures of cost and staff for various computers, xerox copy of same.](#)
By R.B. Thornley, Systems Reviewer, 15 June 1950; 8 tissue paper sheets, pages 1-5 report of the meeting, 6-7 agenda of the meeting, 8 table: comparative figures of cost and staff for various computers, xerox copy of same.
- Box 4, Folder 7 Sample Table of Contents for Reports A-12 by GMH (Grace Murray Hopper), 1 page., 22 August 1950
[Image\(s\): Sample Table of Contents for Reports A-12, 22 August 1950 by GMH \(Grace Murray Hopper\), 1 page.](#)
- Box 4, Folder 7 2 eye-fillers go well together! , 1950-12
[Image\(s\): 2 eye-fillers go well together! Joyce Holden, movie starlet, supplements her knowledge of electronics with a visit to the UNIVAC exhibit at the National Business Show." Systems Magazine, December 1950: p. 20 photograph: Miss Holden with mercury memory.](#)
Joyce Holden, movie starlet, supplements her knowledge of electronics with a visit to the UNIVAC exhibit at the National Business Show." Systems Magazine, December 1950: p. 20 photograph: Miss Holden with mercury memory.

- Box 4, Folder 7 UNIVAC Programming Form No. 1-1101 (F), Copyright 1950 EMCC; a subsidiary of Remington Rand, Inc., 1950
[Image\(s\)](#)
- Box 4, Folder 7 Technical Writing, by Joseph D. Chapline, Jr.: copyright 1950 by J.P. Chapline, Jr., First Prize Billin Award Contest, 1950, Engineers' Club, Philadelphia: 8 pages, pamphlet.
[Image\(s\)](#)
- Box 4, Folder 8 Programming UNIVAC Fac-tronic Systems, Manual I
[Image\(s\): Programming UNIVAC Fac-tronic Systems, Manual I Advance Copy \(ditto copy\); post-March 1950 when EMCC became subsidiary of Remington Rand \(see P. I-1-3\): I-1-1 to I-1-8 History of High Speed Computers and Electronics for Business, I-2-1 to I-2-11 Problem Analysis by Surveys to Preparation of a Process Flow Chart, I-3-1 to I-1-9 Functions of the UNIVAC Fac-tronic System, I-4-1 to I-4-33 The Language of the Computer, programming and coding, I-5-1 to I-5-7 Control and Tape Handling, I-6-1 to I-6-10 Digital Sorting, Collating, External Collating, Merging, Format of output, Columnar Arrangement.](#)
Advance Copy (ditto copy); post-March 1950 when EMCC became subsidiary of Remington Rand (see P. I-1-3): I-1-1 to I-1-8 History of High Speed Computers and Electronics for Business, I-2-1 to I-2-11 Problem Analysis by Surveys to Preparation of a Process Flow Chart, I-3-1 to I-1-9 Functions of the UNIVAC Fac-tronic System, I-4-1 to I-4-33 The Language of the Computer, programming and coding, I-5-1 to I-5-7 Control and Tape Handling, I-6-1 to I-6-10 Digital Sorting, Collating, External Collating, Merging, Format of output, Columnar Arrangement.
- Box 4, Folder 9 New Old Faithful; 050-11, no author "The purpose of this routine is to test all UNIVAC instructions and to perform a memory check." p.1., 7 February 1951
[Image\(s\): New Old Faithful, 7 February 1951; 050-11, no author "The purpose of this routine is to test all UNIVAC instructions and to perform a memory check." p.1.](#)
- Box 4, Folder 9 If Robots Run the Works
[Image\(s\): If Robots Run the Works: LOGIC applied to assembly lines through the use of mechanical brains may spell the end of manpower shortages for industry. by John Kord Lagemann, Nation's Business, March, 1951, pp. 31-33, 79-81.](#)
LOGIC applied to assembly lines through the use of mechanical brains may spell the end of manpower shortages for industry. by John Kord Lagemann, Nation's Business, March, 1951, pp. 31-33, 79-81.
- Box 4, Folder 9 Automatic Subroutine for the Elementary Transcendental Functions, October 1951, note in pencil on top of page: "Joe Harrison to Hopper problems lead to Compiler".
[Image\(s\)](#)
- Box 4, Folder 9 Joint AIEE-IRE Computer Conference Program, Benjamin Franklin Hotel, 9th and Chestnut Streets, Philadelphia, Pennsylvania, 10-12 December 1951

[Image\(s\): Joint AIEE-IRE Computer Conference Program](#)

- Box 4, Folder 9 Code Card UNIVAC I: original code card Grace Hopper developed; Copyright 1951 by EMCC; List of Instructions, UNIVAC Pulse Code.
[Image\(s\)](#)
- Box 4, Folder 10 The Education of a Computer, Dr. Grace Murray Hopper. Presented at the meetings of the Association for Computing Machinery 2-3 May 1952.
[Image\(s\)](#)
- Box 4, Folder 10 Systems Engineer, 14 August 1952; one tissue paper original copy by RDW, corrected in blue pencil by Herbert F. Mitchell; first definition of a systems engineer.
[Image\(s\)](#)
- Box 4, Folder 10 Evening Course in Mathematics for Digital Computers Conducted by Dr. John W. Mauchly, Fall Semester 1952-1953, Department of Mathematics, College of Liberal Arts and Sciences, Temple University, Philadelphia 22, Pennsylvania: course description pamphlet.
[Image\(s\)](#)
- Box 4, Folder 10 UNIVAC Beats Statisticians on Election Night by A.C. Hancock. Reprint from Systems Magazine, December, 1952.
[Image\(s\)](#)
- Box 4, Folder 10 Original UNIVAC Printout of Election '52 Prediction "It's awfully early, but I'll go out on a limb. UNIVAC predicts --with 3,398,745 votes in --Stevenson Eisenhower. The chances are now 100 to 1 in favor of the election of Eisenhower."; in blue ink, "property of Grace M. Hopper".
[Image\(s\)](#)
- Box 4, Folder 10 Program (Advance) Second Annual Joint AIEE, IRE, ACM Computer Conference and Exhibition, 10-12 December 1952, Park Sheraton Hotel, 7th Avenue and 55th Street, New York City: featuring "Input and Output Equipment Used in Computing Systems".
[Image\(s\)](#)
- Box 4, Folder 11 Compiling Routines by Dr. Grace M. Hopper Vice-President, Society for Industrial and Applied Mathematics, Philadelphia: Computers and Automation, formerly The Computing Machinery Field Vol. 2, No. 4 May, 1953.
[Image\(s\)](#)
- Box 4, Folder 11 RemRand News; Vol. IV, No. 20, New York 10, New York, July 1953
[Image\(s\)](#)
- Box 4, Folder 11 Influence of Programming Techniques on the Design of Computers By Grace M. Hopper and John W. Mauchly reprinted from the Proceedings of the I.R.E. Vol. 41, No. 10, October, 1953, pp. 1250-1254.

[Image\(s\)](#)

- Box 4, Folder 11 Organization Chart A Family Tree of Computers Influences by Grace Hopper, 4 December 1953
[Image\(s\): Organization Chart A Family Tree of Computers Influences by Grace Hopper, 4 December 1953.](#)
- Box 4, Folder 12 Preliminary Definitions: Data-Processing Compiler by Dr. Grace Murray Hopper, 31 January 1955
[Image\(s\): Preliminary Definitions: Data-Processing Compiler by Dr. Grace Murray Hopper, 31 January 1955;](#)
- Box 4, Folder 12 Input-Output Instructions (Preliminary) by Dr. Grace Murray Hopper, 12 February 1955
[Image\(s\): Input-Output Instructions \(Preliminary\) by Dr. Grace Murray Hopper, 12 February 1955, 10 pages: pages 1-2, Input-Output Instructions; pages 1-5, Sample Inventory; 3 unmarked pages, 17 statements in English, French, and German.](#)
10 pages: pages 1-2, Input-Output Instructions; pages 1-5, Sample Inventory; 3 unmarked pages, 17 statements in English, French, and German.
- Box 4, Folder 12 Automatic Programming Development: Program for B-0 Compiler Development by Marjorie M. Mulder (?) and Norma C. Cousins; 2 pages, #1 Memo, #2 Flowchart of work setup., 14 March 1956
[Image\(s\): Automatic Programming Development: Program for B-0 Compiler Development by Marjorie M. Mulder \(?\) and Norma C. Cousins, 14 March 1956; 2 pages, #1 Memo, #2 Flowchart of work setup.](#)
- Box 4, Folder 12 "Systems of Debugging Automatic Coding" by Charles Katz. Reprint from Monograph No. 3, Journal of the Franklin Institute Series, April, 1957, pages 17-27.
[Image\(s\)](#)
- Box 4, Folder 12 Glossary of computing terms compiled for the Franklin Institute Computing Center, 1958.
- Box 4, Folder 12 Automatic Programming Development: "Programming Package" or "Layette for a Computer" by Dr. Grace Murray Hopper, 23 July, 1959
3 pages; pages 1-2 Memo, page 3 Check List of Programming to be delivered with a computer note in pencil on top sheet "Memo that started word software", Xerox copy.
- Box 4, Folder 12 Common Business Languages for ADP --A Progress Report, in John Diebold + Associates, Inc. Newsletter, Vol. IV, No. 10 October 5, 1959: on top of first sheet, "Automatic Programming.

- Image(s): Common Business Languages for ADP --A Progress Report, in John Diebold + Associates, Inc. NEWSLETTER, Vol. IV, No. 10 October 5, 1959: on top of first sheet, "Automatic Programming.Ó
- Box 4, Folder 12 Current Developments in Common Language Programming for Business Data Systems, 28 October 1959.
Image(s): Current Developments in Common Language Programming for Business Data Systems, to be presented by E.J. Albertson Methods Consultant, Methods Planning Division, before the Computer Applications Symposium sponsored by Armour Research Foundation of Illinois Institute of Technology at Chicago, Illinois on 28 October 1959.
To be presented by E.J. Albertson Methods Consultant, Methods Planning Division, before the Computer Applications Symposium sponsored by Armour Research Foundation of Illinois Institute of Technology at Chicago, Illinois
- Box 4, Folder 12 Time Sequence U.S. Computers, by Grace Murray Hopper
Image(s): Time Sequence U.S. Computers, by Grace Murray Hopper: time sequence only goes to 1959, 4 pages; page 1 time sequence, pages 2-4 list of computers and producers and destination; seems to go with a flowchart or family tree of computers, xerox copy.
Time sequence only goes to 1959, 4 pages; page 1 time sequence, pages 2-4 list of computers and producers and destination; seems to go with a flowchart or family tree of computers, xerox copy.
- Box 4, Folder 12 Criteria for Evaluation of Compiling Systems: General Requirements (no author), 1 July 1960
Image(s): Criteria for Evaluation of Compiling Systems: General Requirements (no author), 1 July 1960, 6 pages; page 1, Main title; pages 2-4 Specific Criteria; pages 5-6 Specific Evaluation of B-2.
6 pages; page 1, Main title; pages 2-4 Specific Criteria; pages 5-6 Specific Evaluation of B-2.
- Box 4, Folder 12 General Views on COBOL by Jean E. Sammet, Data Systems Operations, Sylvania Electric Products, Inc. 189 B Street, Needham 94, Massachusetts, 2 December 1960
Image(s): General Views on COBOL by Jean E. Sammet, Data Systems Operations, Sylvania Electric Products, Inc. 189 B Street, Needham 94, Massachusetts, 2 December 1960.
- Box 4, Folder 12 Working Paper on a Vocabulary for Information Processing by a subcommittee of the American Standards Association
Image(s): Working Paper on a Vocabulary for Information Processing by a subcommittee of the American Standards Association, Sectional Committee X3, Computers and Information Processing: published for comments in Data Processing Magazine, February, 1965; pp. 26-28 I/O to Punched Card. March, 1965 pp. 31-33 Punched Tape to Zone Punch.
Sectional Committee X3, Computers and Information Processing: published for comments in Data Processing Magazine, February, 1965; pp. 26-28 I/O to Punched Card. March, 1965 pp. 31-33 Punched Tape to Zone Punch.

Box 4, Folder 12

List and description of computers known to Cmdr. Hopper as of 1949-1950

[Image\(s\): List and description of computers known to Cmdr. Hopper as of 1949-1950.](#)

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Series 6: Compiling Routines, 1952 - 1954

- Box 5, Folder 1 Report of Dr. Grace Hopper on 6 January 19??
- Box 5, Folder 1 Title page: COMPILING ROUTINES, 21 December 1953
[Image\(s\)](#)
- Box 5, Folder 1 Memo of report by Grace M. Hopper, 6 January 19??; abstract of the report.
[Image\(s\)](#)
- Box 5, Folder 1 Developments in Compiling Techniques to 31 December 1953, by Dr. Grace Murray Hopper, 31 December 1953, 11 pages: pages 1-9, 11 contain the report; page 10, table "Aids to Man's Work" taken from Electrical Engineering, January 1954; p. 24, the report.
- Box 5, Folder 1 The Education of a Computer, (EXHIBIT A) by Dr. Grace Murray Hopper presented at the meeting of the Association for Computing Machinery 3 May 1952 Pittsburgh, Pennsylvania, 12 pages.
[Image\(s\)](#)
- Box 5, Folder 1 Compiling Routines, (EXHIBIT B) by Richard K. Ridgway, presented at the meetings of the Association for Computing Machinery, 8-9 September 1952, Toronto, Canada.
[Image\(s\)](#)
- Box 5, Folder 1 "The Education of a Computer", (EXHIBIT C) by Grace Murray Hopper Reprinted from the Proceeding of a Symposium on Industrial Applications of Automatic Computing Equipment, Midwest Research Institute, Kansas City, Missouri: 8-9 January 1953, pp 139-144.
[Image\(s\)](#)
- Box 5, Folder 1 Compiling Routines, (EXHIBIT D) by Dr. Grace Murray Hopper, Vice President, Society for Industrial and Applied Mathematics, Philadelphia. Reprinted with permission from COMPUTERS AND AUTOMATION, May 1953.
[Image\(s\)](#)
- Box 5, Folder 1 Bureau of the Census: Workshop on Automatic Programming for the UNIVAC, (Exhibit E) , 16 July 1953
[Image\(s\): Bureau of the Census: Workshop on Automatic Programming for the UNIVAC, \(EXHIBIT E\) 16 July 1953, 3 pages; page 1: Agenda of the Workshop, pages 2-3: "Carne Problem: Response of a Particular R-C Circuit to a Pulsed Signal" by Frank M. Delaney; a demonstration of the A-1 Compiler on the UNIVAC.](#)
3 pages; page 1: Agenda of the Workshop, pages 2-3: "Carne Problem: Response of a Particular R-C Circuit to a Pulsed Signal" by Frank M. Delaney; a demonstration of the A-1 Compiler on the UNIVAC.

- Box 5, Folder 1 Second Workshop on UNIVAC Automatic Programming, (Exhibit F) The Pentagon, 1 December 1953
[Image\(s\): Second Workshop on UNIVAC Automatic Programming, \(EXHIBIT F\) The Pentagon, 1 December 1953: Directorate of Management Analysis, Deputy Chief of Staff, Comptroller, Headquarters, U.S. Air Force, and Remington Rand, Inc](#)
Directorate of Management Analysis, Deputy Chief of Staff, Comptroller, Headquarters, U.S. Air Force, and Remington Rand, Inc
- Box 5, Folder 1 A-2 Compiler, four cartoons drawn by H-S Translation Phase, 28 October 1953, First Sweep 27 October 1953, Second Sweep 10/28/53, Main Compilation 10/??/53.
[Image\(s\)](#)
- Box 5, Folder 1 The A-2 Compiler by Dr. Grace Murray Hopper, 29 October 1953: 3 pages plus flowchart "Compiler Method of Problem Solution".
[Image\(s\)](#)
- Box 5, Folder 1 Statement of the Optical Ray Problem, (EXHIBIT F) 8 pages; page 1 statement of the problem, p. 2 data, p. 3 flow chart, p. 4 use of working storage, pp. 5-8 Information for Optical Ray Problem (i.e. coding).
[Image\(s\)](#)
- Box 5, Folder 1 Letter, (Exhibit G) to Dr. Grace Hopper from Elmore G. Lawton, LTC, CE Army Map Service, Washington, D.C., 3 December 1953
[Image\(s\): Letter, 3 December 1953, \(EXHIBIT G\) to Dr. Grace Hopper from Elmore G. Lawton, LTC, CE Army Map Service, Washington, D.C.; interested in trying A-2 Compiler on their problems, has promise of increasing efficiency of computing with UNIVAC.](#)
Interested in trying A-2 Compiler on their problems, has promise of increasing efficiency of computing with UNIVAC.
- Box 5, Folder 1 Letter, (Exhibit H) to Dr. Grace Hopper from Emil D. Schell, Chief, Mathematical Computation Branch, AFAPA-3B, DCS/Comptroller, Hq USAF, Washington 25, D.C., 14 December 1953
[Image\(s\): Letter, 14 December 1953, \(EXHIBIT H\) to Dr. Grace Hopper from Emil D. Schell, Chief, Mathematical Computation Branch, AFAPA-3B, DCS/Comptroller, Hq USAF, Washington 25, D.C.; made effective use of A-2 Compiler, yet somewhat handicapped by lack of descriptive material; want copies of expository material and operating instructions.](#)
Made effective use of A-2 Compiler, yet somewhat handicapped by lack of descriptive material; want copies of expository material and operating instructions.
- Box 5, Folder 1 Letter, (Exhibit I) to Dr. Grace Hopper from Emil D. Schell, Chief, Mathematical Computation Branch, AFAPA-3B, DCS/Comptroller, Hq USAF, Washington 25, D.C., 14 December 1953
[Image\(s\): Letter, 14 December 1953, \(EXHIBIT I\) to Dr. Grace Hopper from Emil D. Schell, Chief, Mathematical Computation Branch, AFAPA-3B, DCS/](#)

- Comptroller, Hq USAF, Washington 25, D.C.; used A-2 Compiler for an Air Force problem; found subroutine to compute the cosine of an angle contained errors, enclose their corrections. Letter, (EXHIBIT J) to Dr. Grace Murray Hopper (illegible copy).
- Used A-2 Compiler for an Air Force problem; found subroutine to compute the cosine of an angle contained errors, enclose their corrections. Letter, (EXHIBIT J) to Dr. Grace Murray Hopper (illegible copy).
- Box 5, Folder 1 Letter, Undated (Exhibit J) Too Faded to Determine Author, Recipient, Date, or Subject.
Image(s): Letter, Undated (EXHIBIT J) Too Faded to Determine Author, Recipient, Date, or Subject.
English.
- Box 5, Folder 1 The A-2 Compiler System: Operations Manual, (Exhibit K). Copyright 1953 by Remington Rand, Inc., 15 November 1953
Image(s): The A-2 Compiler System: Operations Manual, (EXHIBIT K) 15 November 1953. Copyright 1953 by Remington Rand, Inc. "A working paper intended to provide...all the information necessary to make use of the existing system." "The A-2 Compiler System has been developed by Richard K. Ridgway and Margaret H. Harper under the direction of Dr. Grace M. Hopper, Programming Research Section, Electronic Computer Department, Remington Rand, Inc."
"A working paper intended to provide...all the information necessary to make use of the existing system." "The A-2 Compiler System has been developed by Richard K. Ridgway and Margaret H. Harper under the direction of Dr. Grace M. Hopper, Programming Research Section, Electronic Computer Department, Remington Rand, Inc."
- Box 5, Folder 2 Unknown Chart/Grid, Features Binary, Numerals, Letters, and Symbols, undated
Image(s): Unknown Chart/Grid, Features Binary, Numerals, Letters, and Symbols. Undated.
English.
- Box 5, Folder 2 Survey of Automatic Data-handling and computing (3 pp. blank form).
Image(s)
- Box 5, Folder 2 Glossary of Automatic Programming Terms (2 copies).
Image(s)
- Box 5, Folder 2 UNIVAC System: 1948-1951 Eckert-Mauchly Computer Corp.
Image(s)
- Box 5, Folder 2 "The ENIAC, An Electronic Computing Machine", by Professor D. R. Hartree. Published by Nature, volume 158. 7 pages. , October 12, 1946

Image(s): "The ENIAC, An Electronic Computing Machine", by Professor D. R. Hartree. Published October 12, 1946. Nature, volume 158. 7 pages.

English.

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Series 7: Press Clippings, 1944 - 1953

- Box 5, Folder 3 Torrey, Volta, Robot Mathematician Knows All the Answers, Popular Science, October 1944, pp. 86-89, 222f.
[Image\(s\): Torrey, Volta, Robot Mathematician Knows All the Answers, POPULAR SCIENCE, October 1944, pp. 86-89, 222f.](#)
- Box 5, Folder 4 Davis, Watson, Ten Most Important Scientific Advancements of 1944,
[Image\(s\): Davis, Watson, Ten Most Important Scientific Advancements of 1944, Tribune \(handwritten in pencil, possibly NY Herald Tribune, in ad for Popular Science\) \(note: IBM, NYC, had Xerox, find out from there\).](#)
Tribune (handwritten in pencil, possibly New York Herald Tribune, in ad for Popular Science)
- Box 5, Folder 5 New York Times, special to dateline August 6th. , 7 August 1944
"Algebra Machine Spurs Research Calling for Long Calculations: Harvard Receives Today Device to Solve in Hours Problems Taking So Much Time They Have Never Been Worked Out."
- Box 5, Folder 5 Post (handwritten) "Automatic Brain for Harvard" p. 1 to continuation "Harvard Gets World's Greatest Calculator" W/picture Aiken, Hopper and interpolator.
- Box 5, Folder 6 Grant, Lester "35-Ton Super-Brain Can Solve Hardest Mathematical Problem: It can do Simple Addition or Dynamic Equations; an Hour-Long Problem Solved in 5.8 Seconds; I.B.M. Presents Device to Harvard Today" Staff Correspondent to [?] dateline , 6-7 August 1944.
[Image\(s\): Grant, Lester "35-Ton Super-Brain Can Solve Hardest Mathematical Problem: It can do Simple Addition or Dynamic Equations; an Hour-Long Problem Solved in 5.8 Seconds; I.B.M. Presents Device to Harvard Today" Staff Correspondent to ? dateline Aug. 6-7 August 1944.](#)
- Box 5, Folder 7 New York Herald Tribune, "The Greatest of Mathematical Calculating Machines and Its Designer". Pictures Aiken with Mark I, Hopper with tape punch, Bloch with output, 7 August 1944
[Image\(s\): New York Herald Tribune, "The Greatest of Mathematical Calculating Machines and Its Designer" 7 August 1944. Pictures Aiken with Mark I, Hopper with tape punch, Bloch with output](#)
- Box 5, Folder 8 Galbraith, "Side Glances" (cartoon) date September 18th
"Just what I predicted! Here's an automatic arithmetic machine that does everything --why should I go on making a fool of myself studying those miserable fractions?"
- Box 5, Folder 8 Mathematics by the Millions editorial
[Image\(s\): Mathematics by the Millions editorial.](#)
- Box 5, Folder 9 Mathematical Brain, title under photos in Boston paper, 7 Aug. 1944 Aiken and Hopper with interpolator, White with tape racks, Aiken with interpolator(?)

[Image\(s\)](#)

- Box 5, Folder 10 A Mathematical Robot With All the Answers Philadelphia Inquirer, 20 August 1944. Aiken with Mark I, Hopper with tape punch, White with sequence mechanism.
[Image\(s\)](#)
- Box 5, Folder 11 Wayman, Dorothy G. "Harvard Gets Huge Calculator: 51-Foot Machine Costs \$250,000, Took Six Years" The Boston Daily Globe, 7 August 1944.
[Image\(s\)](#)
- Box 5, Folder 12 Stevens, Paul "Fabulous Robot Brain Now Works for Navy" Herald (handwritten) Boston Herald Monday 7 August 1944 picture: Aiken w/calculator.
[Image\(s\)](#)
- Box 5, Folder 12 The Aiken Machine editorial taped to same page as above
- Box 5, Folder 13 Associated Press "New Machine Marvel As Math. Calculator" The Boston Daily Record, 7 August 1944.
[Image\(s\)](#)
- Box 5, Folder 13 Harvard Told Robot Brain Just a Starter" from a Boston paper.
- Box 5, Folder 14 Calculator at Harvard Solves Navy Problems" The Christian Science Monitor, 7 August 1944, picture of Aiken with calculator.
- Box 5, Folder 14 Shellaby, Robert K (Staff Writer of The Christian Science Monitor) New Navy Calculator Solves Difficult Problems in Seconds.
- Box 5, Folder 15 Harvard Service News, published by the Harvard Crimson, Tuesday, 8 August 1944, Vol 11, No. 59., 146:12:50. Two articles with pictures.
- Box 5, Folder 15 Conant Accepts I.B.M. Calculator: High Navy Officers Witness Title Transfer: Mathematical Robot to Help University Research, p. 1-2 pictures: tape punch, Hopper and White with sequence mechanism, Aiken and Hopper with interpolator, Bloch with calculator.
[Image\(s\)](#)
- Box 5, Folder 15 Electric Brain Solves Functions, Interpolation, Differentials, Trig: Auto Circuits Work For BuShip in War p. 1-2 picture: Campbell and Verdonck (?) setting constants.
[Image\(s\)](#)
- Box 5, Folder 16 Presto! Math Made Easy With New 'Gadget': Plainfielder's Niece is Operator of Robot 'Einstein' Plainfield, N.J. , 15 October 1944
[Image\(s\): Presto! Math Made Easy With New 'Gadget': Plainfielder's Niece is Operator of Robot 'Einstein' Plainfield, N.J. paper, August 1944 Picture of Hopper and tape punch, good biographic data. 5 17 Gobind Behari Lal \(Noted](#)

- [Science Analyst\) Harvard's Robot Super-Brain"" The American Weekly, 15 October 1944.](#)
Paper, August 1944 Picture of Hopper and tape punch, good biographic data. 5
17 Gobind Behari Lal (Noted Science Analyst) Harvard's Robot Super-Brain""
The American Weekly.
- Box 5, Folder 17 "Harvard's Robot Super-Brain" by Gobind Behari Lal. Dated October 15, 194?.
[Image\(s\)](#)
English.
- Box 5, Folder 18 Mathematical Robot, Time, 14 August 1944, picture Aiken with tape and Mark I
topic: Science.
[Image\(s\): Mathematical Robot, TIME, 14 August 1944, picture Aiken with tape
and Mark I topic: Science.](#)
- Box 5, Folder 19 Giant New Calculator Science News Letter 12 August 1944, topic: Engineering-
Mathematics.
[Image\(s\)](#)
- Box 5, Folder 20 Think Machine" under picture of Hopper with tape punch, Newsweek, 14 August
1944
[Image\(s\): Think Machine" under picture of Hopper with tape punch, Newsweek,
14 August 1944.](#)
- Box 5, Folder 21 World's Greatest Machine for Automatic Calculation Science News Letter,
19 August 1944; picture of calculator on front cover topic: Engineering-
Mathematics.
[Image\(s\)](#)
- Box 5, Folder 22 Robot Works Problems Never Before Solved, Popular Mechanics Magazine,
October 1944; Pictures: Aiken with calculator, Hopper with tape punch,
Verdonck(?) with tape racks, view of tape.
[Image\(s\)](#)
- Box 5, Folder 23 Harvard Alumni Bulletin: War Summer, Vol 47, No. 1, 23 September 1944.
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- Box 5, Folder 24 Table of Contents Newspaper Clippings Given by Grace Hopper, 3 Pages
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English.
- Box 5, Folder 24 'Mechanical Brain' from Harvard To Seek 'Push-Button' War Answers Boston
Sunday Herald, 7 March 1948, (AP) Mark II, move to Dahlgren.
- Box 5, Folder 24 25-Ton 'Mechanical Brain' Built at Harvard for Navy Boston Sunday Globe, 7
March 1948; photo of Mark II, move to Dahlgren.

[Image\(s\)](#)

- Box 5, Folder 24 New, Faster Mechanical Brain Being Built at Harvard for Navy Paul Stevens (2 copies) 22 August 194?, photos: Aiken, Hopper Mark III.
[Image\(s\)](#)
- Box 5, Folder 24 Why Study When Machine Knows All the Answers?: Ivy Orator Says Mechanical Brain Solves Conant's Income Tax and Makes Salads, (2 copies) Boston Daily Globe, Wednesday, 4 June 1947.
[Image\(s\)](#)
- Box 5, Folder 24 Navy Calculating Machine Moved to Dahlgren, Va." a Boston paper, day after 1st Naval District announced people going with calculator.
[Image\(s\): Grace Murray Hopper Collection](#)
- Box 5, Folder 24 Mechanical Brain Moved to Navy Proving Ground New York Herald Tribune, Sunday, 8 March 1948 (AP) Mark II, Move to Dahlgren.
- Box 5, Folder 24 Multiplies Billions in One Flash: Navy's New Machine Made at Harvard for \$600,000 Robert M. Farrington, a Boston paper, 7 March 1948 (AP), Mark II, move to Dahlgren.
[Image\(s\): Grace Murray Hopper Collection](#)
- Box 5, Folder 24 Harvard Unveils Huge Calculator
[Image\(s\): Harvard Unveils Huge Calculator: It Will Solve Guided Missile Ballistic Problems and New Aerodynamics for Navy: Thrice Forerunner's Size: Mark II Twelve Times as Fast, Doing in a Second a Multiplication Running into Billions William M. Blair \(Special to the New York Times\), 8 January 1947, Mark II dedication, 47 Symposium 1st day.](#)
It Will Solve Guided Missile Ballistic Problems and New Aerodynamics for Navy: Thrice Forerunner's Size: Mark II Twelve Times as Fast, Doing in a Second a Multiplication Running into Billions William M. Blair (Special to the New York Times), 8 January 1947, Mark II dedication, 47 Symposium 1st day.
- Box 5, Folder 24 Biggest Harvard 'Brain' Tuned to Navy Rockets
[Image\(s\): Biggest Harvard 'Brain' Tuned to Navy Rockets \(Page 1\) continued \(Page 12\) as "Harvard Bares Biggest 'Brain' to Cerebrate on Navy Rockets" W.E. Playfair, Boston Herald, Wednesday, 8 January 1947 photo: Miss Kepke with abacus in front of Mark I, mislabeled Mark II. Mark II, 1st day 47 Symposium.](#)
(Page 1) continued (Page 12) as "Harvard Bares Biggest 'Brain' to Cerebrate on Navy Rockets" W.E. Playfair, Boston Herald, Wednesday, 8 January 1947 photo: Miss Kepke with abacus in front of Mark I, mislabeled Mark II. Mark II, 1st day 47 Symposium.
- Box 5, Folder 24 Mammoth Mechanical Brain Is Irked by Too Much Work New York Herald Tribune, 12 January 1947, Mark II.

[Image\(s\): Grace Murray Hopper Collection](#)

- Box 5, Folder 24 Huge Mechanical Brain Operated at Unveiling, 8 January 1947, (INS) Mark II.
[Image\(s\): Grace Murray Hopper Collection](#)
- Box 5, Folder 24 Electrons Trained At Harvard Lab: Research Expert is Developing New Super-Calculator Recording Device, John Lynch, Boston Traveler, Friday, 10 January 1947. Photo: Harrison W. Fuller and Numeroscope Fuller and Numeroscope description.
[Image\(s\)](#)
- Box 5, Folder 24 Christian Science Monitor, Tuesday, 14 October 1947, Page 9 (1st page, Second Sect.) "Mechanical Calculators Eject Right Answers Quicker'n a Flash", full page on high speed calculators (6 copies) including: "Demands of War Spurred Push-Button Analyzers: Electronics Count Years in Seconds" by Herbert B. Nichols (Natural Science Editor, CSM), survey of U.S. Development. "Defies Imagination" by Dr. E.U. Condon (Director of the National Bureau of Standards). "Overseas Use of Robot Calculators Speeded: Rapid Solutions Welcomed" by H.B. Nichols, includes: England, France, Sweden, the Netherlands, Czechoslovakia, Norway photographs: full view Mark II, ENIAC switches, Mark II interpolators, MIT's electro-mechanical differential analyzer output paper tape.
[Image\(s\)](#)
- Box 5, Folder 24 Harvard Alumni Bulletin, p. 618 photo of Mark I, full-length.
- Box 5, Folder 24 Dots on Film Latest in Speed Calculation, Boston Sunday Herald, 9 November 1947 (AP); Kodak photographic memory.
[Image\(s\)](#)
- Box 5, Folder 24 Machine Can Calculate and Remember, The Washington Post, Wednesday, 28 January 1948 (AP) IBM SSEC.
[Image\(s\)](#)
- Box 5, Folder 24 Science and Review: 'Memory' Device: Calculator Control Unit Works With Super-Human Speed Waldemar Kaempffert, page E9: memory device -Kodak photographic memory.
[Image\(s\): SCIENCE IN REVIEW: 'Memory' Device: Calculator Control Unit Works With Super-Human Speed Waldemar Kaempffert, page E9: memory device -Kodak photographic memory.](#)
- Box 5, Folder 24 New I.B.M. Electrical Brain Eases Shortage of Scientists: Frees Top Experts From Computation Drudgery in Research So That They Can Solve More Problems and Open New Fields of Inquiry", John J. O'Neill, New York Herald Tribune, 8 February 1948, page 10 II IBM SSEC, IBM biased.
[Image\(s\)](#)
- Box 5, Folder 24 New Giant 'Brain' Does Wizard Work
[Image\(s\): New Giant 'Brain' Does Wizard Work: Bureau of Standards Says It Can Solve Vast Mathematical Problems in a Few Minutes: Laboratory for This](#)

[City: Others to Be Set Elsewhere --Computation Machine Results From War Findings, New York Times, 25 August 194?; 1st page second section, NBS machines and laboratories announced.](#)

Bureau of Standards Says It Can Solve Vast Mathematical Problems in a Few Minutes: Laboratory for This City: Others to Be Set Elsewhere --Computation Machine Results From War Findings, New York Times, 25 August 194?; 1st page second section, NBS machines and laboratories announced.

- Box 5, Folder 24 Science's New 'Memory Machines' do Virtually Everything But Talk, W.E. Playfair, Boston Herald, Thursday, 9 January 1947; 47 Symposium -memory devices -Sharpless (EDVAC) and Forrester (Whirlwind).
[Image\(s\)](#)
- Box 5, Folder 24 Dr. Bush Honored for Public Service: Atom Bomb Scientist Gets Hoover Medal -Sees Better Life Through Research, New York Times, Friday, 31 January 1947. Photo: Bush (page C5). Bush gets Hoover Medal of American Institute of Electrical Engineers.
[Image\(s\)](#)
- Box 5, Folder 24 Computers Beat Brain: New Electronic Devices Said to Be 100,000 Times Faster New York Times, Friday, 31 January 1947 (page C5). American Institute of Electrical Engineers Sharpless (EDVAC), Forrester (Whirlwind).
- Box 5, Folder 24 Wiener Denounces Devices 'For War': M.I.T. Mathematician Rebuffs Bid to Harvard Symposium of Calculating Machinery Special to the New York Times, 9 January 1947; refuse to speak at Navy-sponsored conference.
[Image\(s\)](#)
- Box 5, Folder 24 M.I.T. Scientist 'Rebels' At War Research Talk: Wiener Cites Moral Issue in Use of Discoveries Against Civilians, Sara White Boston Traveler, Wednesday, 8 January 1947 (page 1, 12); part of text of letter to Atlantic Monthly entitled "A Scientist Rebels".
[Image\(s\)](#)
- Box 5, Folder 24 Conscience and the Machine editorial, New York Herald Tribune, Friday, 10 January 1947, (2 copies p. 18); Wiener, military use of scientific developments.
[Image\(s\)](#)
- Box 5, Folder 24 Conscience in Science editorial, Boston Globe, Friday, 10 January 1947, (page 18); Wiener, progress in science and destruction of human life.
[Image\(s\)](#)
- Box 5, Folder 24 Making Weather to Order, John Kord Lagemann, TW 23 February 1947 pp. 4, 5, 28. Dr. V.K. Zworykin of RCA, calculating machine for weather control. Note: designed by von Neumann, Zworykin, and Spilhaus of NYU during WWII and declassified in 1947, under construction.

[Image\(s\)](#)

- Box 5, Folder 24 Electronic Calculator Delivered to Bureau of Census: Science and Industry Are Aided By New Electronic Calculators Edwin L. Dale, Jr., New York Herald Tribune, 5 August 1951 Uses of Computers, UNIVAC, REAC, IBM, Photos: 1st UNIVAC to Bureau of Census, 200th REAC off assembly line.
- [Image\(s\)](#)
- Box 5, Folder 25 Christian Science Monitor, 20 March 1946
(1st page 2nd section) "New Mathematical Robots Unscramble Digits to Multiply Inventions", full page on high speed calculators including: "Research Labs Calculate Devices To Bridge Years of Two Plus Two" by Herbert B. Nichols (Natural Science Editor of The Christian Science Monitor), survey of developments, MIT's differential analyzers, ; "Gears Failed to Mesh Century Ago" by a Staff Correspondent early computing machines, Babbage, Pascal, Leibnitz "ENIAC Weighs 30 Tons, Fires Answers for Army" Special to the CSM from Philadelphia ENIAC, uses, problems; "Engineers Win Fast Answers From Electric 'Thinking Cap'", Special to the CSM from Pittsburgh Westinghouse network calculator.
- Box 5, Folder 25 Photographs: ENIAC, setting constants, wiring, MIT electro-mechanical differential analyzer, input graphically; Westinghouse network calculator; ENIAC digit trays; Aiken and Hopper with difference engine.
- Box 5, Folder 25 60-Day Moving Job Just Case of Harvard 'Brain' Fatigue, W.E. Playfair Boston Sunday Herald, 15 September 1946 (p. 1, 2C., 2 copies) move to Computation Lab from Cruft Lab, description of lab.
- Box 5, Folder 25 Fabulous Robot Brain Now Works For Navy, Paul Stevens, Boston Herald, Monday, 7 August 1944, (pp. 1, 6.) also tape, Mark I dedication.
- Box 5, Folder 25 Behemoths Multiply: British Calculators Got There First, Herbert B. Nichols, Christian Science Monitor, Babbage and Aiken.
- Box 5, Folder 25 Britain's First Mathematical Engine, photo, Christian Science Monitor, Thursday, 9 January 1947; Richard Babbage and Aiken and piece of difference engine.
- Box 5, Folder 25 Computation Laboratory Dedicated at Harvard Christian Science Monitor, 7 January 1947
(p. 1, 2. 3 copies), 1st day of 47 Symposium. Photos (page 2): "At Harvard Laboratory Dedication" Adm. Baker, Grace Hopper, Capt. Van Eaton Aiken with Prof. Archibald of Brown showing constants.
- Box 5, Folder 25 Harvard Opens Laboratory for Computation: Hopes to Use Mechanical Brain to Solve Problems of All Social Sciences, Stephen White, New York Times(?) 29 December 1946: new Comp Lab, uses of calculators.
- Box 5, Folder 25 Says Era of Mechanical Calculators Lies Ahead of Us

- Professor Aiken of Harvard Computation Laboratory Talks of Wonders of His Three Mathematical Giants, George Brinton Beal, Boston Sunday Post, 28 December 1947 (p. A-4.) Aiken, Mark I, II, III, previous machines -Babbage, adding machines photo: Richard Babbage, Aiken, Difference Engine.
- Box 5, Folder 25 Harvard's New 'Brain' Permits Social Studies, Boston Herald, Friday, 10 January 1947; Dr. Wassily Leontief, economic analysis on computers.
- Box 5, Folder 25 Calculators' Use To Solve Social Issues Forecast: Harvard Economist Asserts Nation Could Evolve Its Future By Such Machines, Stephen White, New York Times 10 January 1947; Leontief, economic analysis by computers at 47 Symposium.
- Box 5, Folder 25 Forecast of the Future editorial, Herald Tribune, 12 January 1947 (handwritten) analysis of economics by computers forecast.
- Box 5, Folder 25 Highbrow Harvard Bows To A Robot Brain, Sunday Mirror Magazine, 5 August 1945; Mark I, tests against known answers, uses for Navy.
- Box 5, Folder 25 Symposium of Calculator Experts Opens New Computator Laboratory Rear Admiral Joy Pledges Use of Naval Calculating Machinery To Scientists; Aiken Stresses Acute Need for Convention; President Conant, Sick, Is Unable to Give Address The Harvard Crimson Wednesday, 8 January 1947 (p. 1), 1st day of 47 Symposium.
- Box 5, Folder 25 New Vistas in Post-War Science Research Seen in Debut of Computation Lab Today
Two-Story Brick Structure Shelters Famed Mark I IBM Machine Calculator, Shane E. Riorden '46 The Harvard Crimson, Tuesday, 7 January 1947 (p. 2.) Mark I, move to Comp Lab, situation at Harvard at time. Photos: Comp Lab Aiken, Hopper with page for photo-offset; Eddy Lucchini (technical operator) setting plugging instructions.
- Box 5, Folder 25 Mechanical 'Memory' Test In Symposium at Harvard, Herbert B. Nichols, Christian Science Monitor, 8 January 1947, (p. 3.); discussion of 'memory' in calculating machines at 47 Symposium.
- Box 5, Folder 25 Robot Solves Complicated Mathematics,
Natural Science Editor (Herbert B. Nichols) Christian Science Monitor, 8 January 1947, (p. 3.) Interview with Aiken, methods of computation."Machinery Passes Math Exam", photo, Christian Science Monitor, 30 December 1946 (p. 1). Aiken with tape for Mark I, labeled results of computation (?).
- Box 5, Folder 25 Harvard Puts Big Calculator in New Home, Natural Science Editor (H.B.N.), Christian Science Monitor, 30 December 1946 (p. 2.). Comp Lab, moving Mark I.
- Box 5, Folder 25 New Computer Lightning Fast: Army Call It the World's Best Calculator, The New York Sun, Friday, 15 February 1946 (AP p. 1); second section, ENIAC announcement to the press.

- Box 5, Folder 25 Mechanical Einstein' Calculator Has Mathematical World in Palm", The Boston Herald, Friday, 15 February 1946 (AP) ENIAC.
- Box 5, Folder 25 Electronic 'Brain' Computes 100-Year Problem in 2 Hours, 15 February 1946 (? paper); ENIAC, set-up, compare with MIT differential analyzer.
- Box 5, Folder 25 Army's Electronic 'Brains' Addled, The Boston Herald, Wednesday, 21 April 1948 (AP); reports tube breakdowns, lack of personnel to keep ENIAC busy.
- Box 5, Folder 25 Computer Unit Sold To Remington Rand, New York Times, 2 March 1950; sale of Eckert-Mauchly Computer Corp. to Remington Rand.
- Box 5, Folder 25 Electronic Brains: Calculating Machines Help Lighten Industry's Record Keeping Chores: High-Speed Computers Take Inventory, Figure Utility and Insurance Bills, An Aid to Oil-Well Drillers, James P. Thurber, Jr., The Wall Street Journal, 29 July 1953 (p. 1, 15).
- Box 5, Folder 25 Electronic Brains: Computing Machines Help Build Airplanes Faster and Cheaper: Tell How Many Rivets to Put On a Wing; Steal Work of Wind Tunnels, Test Pilots; Year's Job Done in Minutes, Walter H. Oxstein The Wall Street Journal, 14 August 1950 (p. 1), West Coast developments.
- Box 5, Folder 25 2150 A.D.**Preview of the Robot Age: Machines that think and do the hard work will free men to develop their real talents, Edmund C. Berkeley, New York Times Magazine, Sunday, 19 November 1950 (pp. 19, 68f).
- Box 5, Folder 25 Network 'Drafts' UNIVAC for Election Coverage: CBS to Use Electronic Robot To Forecast Election Results The Evening Bulletin, Philadelphia, Wednesday, 15 October 1952. UNIVAC in 1952 election photo: Eckert, Cronkite and operator with UNIVAC.
- Box 5, Folder 25 Mechanical Brain Strictly a Moron: 60-Pound Device Balks at Adding Two and Two, Newark Evening News, Friday, 19 May 1950 (AP p. 13). Berkeley's 'Simple Simon', photo: "Mechanical Mental Midget", Berkeley, Vall and Jensen (builders).
- Box 5, Folder 25 Tiny Mechanical 'Brain' Notable for Stupidity, New York Times, Thursday, 18 May 1950: announcement of unveiling of 'Simple Simon' at Columbia.
- Box 5, Folder 25 Tiny 'Brain' Robot Not So Very Dumb: 'Simple Simon' Proves That He's Clever Enough to Know Own Limitations, New York Times, Friday, 19 May 1950 Berkeley's 'Simple Simon' photo: "Mechanical 'Brain' Demonstrated At Columbia"; Berkeley, Vall and Jensen (builders) and 'Simple Simon'.

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Series 8: Periodicals and Brochures, 1950 - 1953

- Box 5, Folder 26 Table of Contents "Grace Hopper's Files - Periodicals and Brochures, Early 1950's. Two Pages.
[Image\(s\)](#)
English.
- Box 5, Folder 26 UNIVAC FAC-TRONIC SYSTEM by Remington Rand, Inc., Eckert-Mauchly Division (18 pages) post-31 March 1951.
[Image\(s\)](#)
- Box 5, Folder 26 Ordnance Unit 4-3 Boasts of Expert 4ND Naval Reserve News Training and Information Bulletin, June 1953; (page twenty-six) a biography of Grace Hopper and photo.
[Image\(s\)](#)
- Box 5, Folder 26 Bell Laboratories Record, Volume XXXI Number 4, April 1953.
[Image\(s\)](#)
- Box 5, Folder 26 Systems for Modern Management
- Box 5, Folder 26 Volume XIV, No. 6 June 1950 "Electronic Accounting" by John W. Mauchly and J. Presper Eckert, pages 10-11, 27.
[Image\(s\)](#)
- Box 5, Folder 26 Volume XIV, No. 7 July, 1950 (2 copies) "Electronic Actuary: How UNIVAC, Remington Rand's new high-speed computing system, is being applied successfully to the complicated problems of life insurance policies and studies." by Dr. Grace M. Hopper as told to Marika Hellstrom (pages 10, 29).
[Image\(s\)](#)
- Box 5, Folder 26 Volume XIV, No. 8, August, 1950 "Solving engineering problems fast by UNIVAC", by Dr. John W. Mauchly (pages 20-21).
[Image\(s\)](#)
- Box 5, Folder 26 Volume XIV, No. 9, September, 1950, "Material Control by UNIVAC: Maintaining balanced inventories requires a system which combines great flexibility and amazing speed." by T. Wister Brown (pages 15, 34).
[Image\(s\)](#)
- Box 5, Folder 26 Volume XIV, No. 11 November, 1950 "Mathematical Economics and the UNIVAC", by Herbert F. Mitchell, Jr., Ph.D. (pages 7, 34-35).
[Image\(s\)](#)
- Box 5, Folder 26 Volume XVI, No. 12, December, 1952 "UNIVAC Beats Statisticians on Election Night" by A.C. Hancock (pages 4-5).

[Image\(s\)](#)

Box 5, Folder 26 Volume XVII, No. 2, February, 1953 "The Science of Industry" by General Douglas MacArthur (pages 4-6). Chairman of the Board, Remington Rand, Inc.

[Image\(s\)](#)

Box 5, Folder 26 Volume XVII, No. 3, March, 1953 "Announcing...A Forward Step Towards Automatic Process Control the "ERA 1103" Electronic Computer".

[Image\(s\)](#)

Box 5, Folder 26 Volume XVII, No. 4 April, 1953 "Getting Facts Faster: A glimpse at some of the inner workings of the UNIVAC, and what it can do towards solving complex business problems." by Robin Leatherman (pages 7-8).

[Image\(s\)](#)

Box 5, Folder 26 Volume XVII, No. 7 July, 1953, "Computing the Nation's Potential" by H. Burke Horton (pages 16-17).

[Image\(s\)](#)

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Series 9: Humor File , 1944 - 1953

- Box 5, Folder 27 Bugs, by Grace Hopper July 26-28: half sheet of unlined three-hole paper Table worm, July 27; Kitchie Boo Boo Bug -He who goes around loosening relays. July 26; NRL Bug -He who sends wrong data. July 28; He who brings good data (also two xerox copies of same).
[Image\(s\)](#)
- Box 5, Folder 27 Humor File - From Grace Hopper. Table of Contents, four pages
[Image\(s\): Humor File - From Grace Hopper. Table of Contents. Four Pages.](#)
English.
- Box 5, Folder 27 Cartoon by Grace Hopper: graph paper, three-hole punched "I am elusive" This way to the buss via Out Relay.
[Image\(s\)](#)
- Box 5, Folder 27 Cartoon by Grace Hopper unlined paper, two holes at top: "What counter shall I go to?"
[Image\(s\)](#)
- Box 5, Folder 27 PROBLEM L by Grace Hopper unlined paper, two holes at top. Note bottom: "Computed, designed, coded, babied, nursed, pleaded with and mothered by" Grace Hopper. Middle: "Errors in mathematics and tape bugs pursued and captured by Ensign Bloch and Ensign Campbell".
- Box 5, Folder 27 Sympathy Chit (3 x 5 file card) signed by I.M. BROADSHOULDERED, LT (j.g.), USNR, Chaplain Striker.
[Image\(s\)](#)
- Box 5, Folder 27 Grace Murray Hopper Collection Finding Aid--Page 48
- Box 5, Folder 27 Cartoon by Stan MacGovern and Jay Nelson Tuck, undated
[Image\(s\): Cartoon by Stan MacGovern and Jay Nelson Tuck, newspaper clipping: "987654321012345678 OR: Harvard University Unveils World's Largest Calculating Machine --Scientific Marvel of the Century!" The Yuk-Yuk Department: undated](#)
Newspaper clipping: "987654321012345678 OR: Harvard University Unveils World's Largest Calculating Machine --Scientific Marvel of the Century!" The Yuk-Yuk Department
- Box 5, Folder 27 Cartoon by Yardley in the Baltimore Sun "As One Haavad Man To Another, How's Chances?" reprinted in Harvard Alumni Bulletin: War Summer Vol. 47, No. 1, 23 September 1944.
- Box 5, Folder 27 Poem (anonymous, 2 tissue paper copies) "Immediately to the right of the main entrance is a classroom seating 59 students. --HAB 14 December 1946".

[Image\(s\)](#)

- Box 5, Folder 27 Description of BINAC (Anonymous); typed on bond paper; "The Binac contains 835 electronic vacuum tubes, most of which lit all of the time."
[Image\(s\): Description of BINAC \(Anonymous\); typed on bond paper; "The Binac contains 835 electronic vacuum tubes, most of which lit all of the time." and so on.](#)
- Box 5, Folder 27 Diploma of Dr. Grace M. Hopper, "Has graduated with full honors from "Logical Blocks' And is hereby award the degree 'In Univacology'", date 1949 when join Eckert-Mauchly computer Corp., according to Grace Hopper.
[Image\(s\)](#)
- Box 5, Folder 27 Round Robin Letter (Anonymous, typed on 2 sheets tissue paper). Attributes of people at Eckert-Mauchly, includes such as: Most Promising: Gen. Groves (He is always promising something)
[Image\(s\): ROUND ROBIN LETTER \(Anonymous, typed on 2 sheets tissue paper\). Attributes of people at Eckert-Mauchly, includes such as: Most Promising: Gen. Groves \(He is always promising something\)](#)
- Box 5, Folder 27 Cartoon by Grace Hopper (pencil on plain paper).
[Image\(s\): Cartoon by Grace Hopper \(pencil on plain paper\). The Evening Bulletin Alternate Thursday x002 "The EMCC celebrated the completion of UNIVAC today. After nearly a century of donuts, coffee, ulcers and swimming parties, the obsolete digital computer is now ready for production."](#)
The Evening Bulletin Alternate Thursday x002 "The EMCC celebrated the completion of UNIVAC today. After nearly a century of donuts, coffee, ulcers and swimming parties, the obsolete digital computer is now ready for production."
- Box 5, Folder 27 Report Card of Grace Murray Hopper, 8 June 1950) "Tact -A+++++ * *Spoke very nicely to Dresch".
[Image\(s\)](#)
- Box 5, Folder 27 Publicity Release of the Joint Development Board (typed both sides 3 x 5 card dateline: New York Times, Jan 1/51).
[Image\(s\): Publicity Release of the Joint Development Board \(typed both sides 3 x 5 card dateline: NYT, Jan 1/51\). Subject: HOMIAC. HOMIAC "named for Admiral Hopper and General Mitchell" "An observer, as passionately fond of mathematics as the HOMIAC, opines that there may be some resemblance to MARK I, MARK II, MARK II, EDVAC, ENIAC, EDSAC, BINAC, SEAC, and UNIVAC, but that this resemblance is doubtless coincidental."](#)
Subject: HOMIAC. HOMIAC "named for Admiral Hopper and General Mitchell" "An observer, as passionately fond of mathematics as the HOMIAC, opines that there may be some resemblance to MARK I, MARK II, MARK II, EDVAC, ENIAC, EDSAC, BINAC, SEAC, and UNIVAC, but that this resemblance is doubtless coincidental."
- Box 5, Folder 27 Quote of J.M. Keynes. "Too large a portion of recent "mathematical" economics are mere concoctions, as imprecise as the initial assumptions they rest on, which allow the author to lose sight of the complexities and interdependencies

of the real world in a maze of pretentious and unhelpful symbols"--according to Grace Hopper, circulated around EMCC.

[Image\(s\)](#)

Box 5, Folder 27

Cartoon by Collinge "A strict diet of simple algebra --and NO calculus." The Philadelphia Inquirer Magazine, June 1, 1952

[Image\(s\)](#)

Box 5, Folder 27

Cartoon (copyright by Field Enterprises, Inc.): "We've eliminated the last 'bug', gentlemen... the human element"... it'll now do an income tax return without blowing a fuse!", March 23, 1952 a Philadelphia paper.

[Image\(s\)](#)

Box 5, Folder 27

Cartoon (copyright by Field Enterprises, Inc.): "It's some Senate committee, professor... they're investigating the 'Brain's' loyalty.." with "Gil" written in on one of the committee, "Herb" on the professor 1953 (from copyright)

[Image\(s\): Cartoon \(copyright by Field Enterprises, Inc.\): "It's some Senate committee, professor... they're investigating the 'Brain's' loyalty.." with "Gil" written in on one of the committee, "Herb" on the professor 1953 \(from copyright\) paper: San...](#)

Box 5, Folder 27

DP DEFINITIONS by W.S. Roth (page 81) ACM(?) year(?) included such as: "DEBUGGING--Removing the needles from the haystack." "MEMORY DUMP -- Amnesia."

[Image\(s\)](#)

Box 5, Folder 27

DP DEFINITIONS by Shirley Marks. ACM date: month after ACM's 11th anniversary includes such as: "Conversion Routine --Missionary work among the Decimals." "Simpson's Rule --Evaluate an integral as you would have an integral evaluate you."

[Image\(s\)](#)

Box 5, Folder 27

The "Electronics" Prayer by "Who'dedmitit" (carbon copy on tissue). Top corner: 26 May 1950 CC-5 "Our UNIVAC, which art in Philadelphia,..." (also four xerox copies of same).

[Image\(s\)](#)

Box 5, Folder 27

Slip of Paper with Writing "Hopren Bioq P - Photo", undated

[Image\(s\): Slip of Paper with Writing "Hopren Bioq P - Photo". Undated.](#)

English.

Box 5, Folder 27

PSALM TO THE FAREWELL STATE (Author Unknown, carbon copy on tissue) "The government is my shepherd, I need not work."... (3 copies).

[Image\(s\)](#)

Box 5, Folder 27

Why Study When Machine Knows All the Answers?: Ivy Oratory Says Mechanical Brain Solves Conant's Income Tax and Makes Salads, Boston Daily Globe, Wednesday, 4 June 1947.

[Image\(s\)](#)

Box 5, Folder 27

Undergraduate Designs Radical Abacus to Rival Harvard Electronic Calculator
Yale Daily News, Friday, January 10, 1947 (p. 1, 5). A.G. Puddlefoot, Yale '50,
with circular abacus challenges Mark I or II. Photo: Puddlefoot with abacus.

[Image\(s\)](#)

Box 5, Folder 28

Captain Marvel and the Incredible Calculator, (Captain Marvel Adventures
Vol. 9 No. 53) 1 February 1946 Fawcett Publications Inc. 1100 W. Broadway,
Louisville, KY perhaps the first comic book to contain a computer, according to
Grace Hopper.

[Image\(s\)](#)

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Series 10: Machine Tape, undated

As a preservation measure, researchers must view the digitized version for the machine tapes rather than the originals.

Box 6

Problem L Tape

[Image\(s\): Paper machine tape \(3 5/8" wide\), punched holes "Problem L Tape RR 3A"](#)

Includes four machine tapes: Problem L Tape R4H; Problem L Tape R3A; Problem L Tape 4A; and Problem L Tape RR3A.

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Series 11: Audio Visual Materials

3 Videocassettes (U-matic)

Computer Resources: Possible Future's, Hardware, Software, People, Part I,
undated

1 Videocassettes (U-matic) (Total Running Time: 52:55)

Computer Resources: Possible Future's, Hardware, Software, People, Part II

1 Videocassettes (U-matic) (Total Running Time: 39:15)

Computer Resources: Possible Future's, Hardware, Software, People, Part III,
undated

1 Videocassettes (U-matic) (Total Running Time: 22:15)

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