

History in the Computing Curriculum

Appendix A4

1950 to 1959

- 1950 [early]: Project Whirlwind becomes operational on a limited basis. (w)
- 1950 [February]: Remington-Rand Corporation acquires the Eckert-Mauchly Computer Corporation. The latter loses crucial contracts due to the McCarthy trials. (a,e,w)
- 1950 [April]: The SEAC becomes operational at the National Bureau of Standards. (w)
- 1950 [May]: The Pilot ACE is completed at England's National Physics Laboratory and runs its first program on May 10. (e,w)
- 1950 [July]: The Standards Western Automatic Computer (SWAC) becomes operational. (w)
- 1950: The SWAC, built under Harry Huskey's leadership, is dedicated at UCLA on August 17. (e)
- 1950: Alan Turing publishes an article in the journal *Mind* establishing the criteria for the Turing Test of machine intelligence. (e)
- 1950 [November]: The Bell Labs Model VI computer becomes operational.
- 1950: Konrad Zuse installs the refurbished Z4 computer at the ETH in Zurich. (w)
- 1951 [February]: The first Ferranti Mark I version of the Manchester University machine is delivered to Manchester University. (w)
- 1951 [March]: The first UNIVAC I computer is delivered to the US Census Bureau on March 31. It weighed 16,000 pounds, contained 5,000 vacuum tubes, could do 1000 calculations per second, and costs \$159,000. (a,e,w)
- 1951: The US Census Bureau buys a second UNIVAC I. (p)
- 1951 [May]: Jay Forrester files a patent application for the matrix core memory on May 11. (e)
- 1951 [June]: The first programming error at the Census Bureau occurs on June 16. (a)
- 1951 [July]: The IAS machine is in limited operation. (w)
- 1951: William Shockley invents the junction transistor. (e)
- 1951: The EDVAC, the first [American] computer to implement the stored-program concept is completed at the University of Pennsylvania. (p)
- 1951: David Wheeler, Maurice Wilkes, and Stanley Gill introduce subprograms and the "Wheeler jump" as a means to implement them. They publish "The Preparation of Programs for an Electronic Digital Computer." (e,w)
- 1951: Betty Holberton creates a sort-merge generator, a predecessor of the compiler. (e)
- 1951 [October]: The LEO I becomes fully operational. (w)
- 1951 [October]: IBM decides to produce the 701 computer. (w)
- 1951: Maurice V. Wilkes originates the concept of microprogramming, a technique providing an orderly approach to designing a computer systems control section. (e)
- 1951-52: Grace Murray Hopper develops A-0, the first compiler. (a,e) <<< Was this really the 'first' compiler, or just an early prototype??>>>
- 1952: Grace Murray Hopper writes a paper describing how to program a computer with symbolic notation instead of detailed machine language that had been used. (t)
- 1952 [January]: The EDVAC runs its first production program on January 28. (e)
- 1952 [April]: The MANIAC and the ORDVAC, copies of the IAS machine, become operational. (w)

1952: Alan Turing dies. (a)

1952: Illiac I is built at the University of Illinois, Urbana-Champaign; Ordvac is built by the US Army. Both use von Neumann architecture. (e)

1952 [June]: John von Neumann's IAS bit-parallel machine is completed for the Institute of Advanced Studies at Princeton, New Jersey. It becomes operational on June 10. (e,w)

1952: Thomas Watson Jr. becomes president of IBM. (e)

1952 [September]: A Ferranti Mark I is installed at the University of Toronto. (w)

1952 [November]: On television, a UNIVAC I predicts the outcome of the Eisenhower-Stevenson presidential election with only 5% of the votes tallied. The event expands the public consciousness regarding computers. (a,e,p,t)

1952 [December]: The IBM 701 -- the Defense Calculator -- is introduced in December. (a,e)

1952: The EDVAC is finally completed at the Moore School. (w)

1952: The Harvard Mark IV becomes operational. (w)

1952: Core memory is installed on the Whirlwind I. (w)

1952: Core memory module is added to the ENIAC. (w)

1953: After several years of development, LEO, a commercial version of EDSAC built by the Lyons Company in the UK, goes into service. (e)

1953: The IBM 650, known as the Magnetic Drum Calculator, debuts and becomes the first mass-produced computer. IBM planned to produce only 50 machines, but because of its success, it manufactured more than 1,000. (a,e,t)

1953: Kenneth Olsen uses Jay Forrester's ferrite-core memory to build the Memory Test computer on the Whirlwind. (a,e)

1953 [September]: IBM announces the development of the 702 computer for commercial calculation. (w)

1954: Earl Masterson's Uniprinter, or line printer, developed for computers, executes 600 lines per minute. (e)

1954 [May]: IBM plans to develop the 704 as a successor to the 701. (w)

1954: Nat Rochester develops the first assembler on the IBM 701. (a)

1954: Texas Instruments introduces the silicon transistor, pointing the way to lower manufacturing costs. (e)

1954: The Univac 1103A becomes the first commercial machine with a ferrite-core memory. (e)

1954 [December]: The NORC computer is delivered on December 2. (w)

1954: The DEUCE machine is constructed by English Electric, which is based on the Pilot ACE. (w)

1955: IBM considers building the Stretch computer. (w)

1955: The first IBM 702 is delivered. (w)

1955: General Electric's UNIVAC is put to work on payroll. This is the first commercial application of a computer. (a)

1955: Index registers are added to the EDSAC at Cambridge. (w)

1955 [October]: The ENIAC is shut off for the last time. (a,w)

1956: The first IBM 705 is delivered. (w)

1956: UNIVAC considers the construction of the LARC. (w)

1956: The ATLAS computer project is started at Manchester University in conjunction with Ferranti Ltd. (w)

1956: The Whirlwind uses the first direct keyboard input to a computer. (a)

1956: ERMA at the Bank of America revolutionizes commercial banking. (a)

1956: John McCarthy and Marvin Minsky chair a meeting at Dartmouth College at which the concept of artificial intelligence is developed. (e,p)

1956: Fuji Photo Film Co. in Japan develops a 1,700-vacuum-tube computer for lens design calculations. (e)

1956: Siemens AG purchases the Zuse KG company. (n)

1956: A UNIVAC with transistors and designed for commercial use is introduced. (e)

1956: John Backus and a team at IBM invent FORTRAN, the first scientific computer programming language. (p)

1956-57: IBM introduces and begins installing the RAMAC (random-access method of accounting and control) 305 hard disk data storage system. (e,w)

1957 [January]: IBM announces the 709 computer. (w)

1957: John Backus and colleagues at IBM deliver the first Fortran (formula translator) compiler to Westinghouse. It proved that efficient, easy-to-use programming languages could be developed. (a,e,t)

1957: The first photograph is scanned, processed, and redisplayed by a computer. (a)

1957: Datamation started as Research and Engineering. (a)

1957: The Atlas Guidance Computer from Burroughs, one of the first computers using transistors, helps control the launch of the Atlas missile. (e)

1957-58: Gordon Moore, Robert Noyce, and others found Fairchild Semiconductor. (e)

1957: Japan's Electrotechnical Laboratory develops a transistor computer, the ETL Mark III, that uses 130 transistors and 1,700 diodes. (e)

1957: John McCarthy forms the Artificial Intelligence Laboratory/Department at MIT. (e,p)

1957 [July]: Control Data Corporation is incorporated on July 8. (a,e)

1957 [October]: Russia launches Sputnik I into orbit on October 4, and the "space race" begins. (e)

1957: The USA responds by forming the Advanced Research Projects Agency (ARPA), which later becomes the Defense Research Projects Agency (DARPA). The purpose of ARPA is to help maintain US technological superiority and guard against unforeseen technological advances by potential adversaries. (f)

1957: Nippon Telegraph and Telephone Corp. develops the Musasino-1, the first parametron computer. It uses 519 vacuum tubes and 5,400 parametrons -- logic elements based on the principle of parametric excitation and invented by Eiji Goto in 1954. (e)

1958: Digital Equipment Corp. is founded. (e)

1958: At Texas Instruments, Jack Kilby develops a prototype semiconductor IC while Robert Noyce works separately on ICs at Fairchild Semiconductors. (e)

1958: Bell's development of the modern data phone enables telephone lines to transmit binary data. (e)

1958: John McCarthy introduces the LISP language. (p)

1958: The Whirlwind project is extended to produce an air traffic control system. (e)

1958: ALGOL 58 is developed. (a)

1958: IBM delivers the first 709 computer. (w)

1958: The Air Force SAGE computer is introduced. It occupied 40,000 square feet for each two-system installation, used 3 megawatts of power, used 30,000 tubes per system, and used a 4K x 32 bit word magnetic core memory. (a)

1958: Philco delivers a transistorized computer -- the TRANSAC S-2000. (w)

1958: The first AN/FSQ7 becomes operational for the SAGE system. (w)

1958: Computers built with transistors mark the beginning of the second generation of computer hardware. Previous computers built with vacuum tubes are first-generation machines. (t)

1958-59: Texas Instruments develops and patents the first integrated circuit. (p)

1959 [January]: Robert Noyce of Texas Instruments conceives the idea for an integrated circuit on January 23. (a)

1959 [March]: Noyce gives a public demonstration of the integrated circuit on March 24. (a)

1959: The Committee on Data Systems Languages (Codasyl) is formed to create COBOL (Common Business Oriented Language). (e)

1959: John McCarthy at MIT develops Lisp (list processing) for artificial intelligence applications. (a,e)

1959: In June, Japan's first commercial transistor computer, NEC Corp.'s NEAC 2201, is demonstrated at an exhibition in Paris. (e)

1959: The Backus-Naur Form is conceived. (a)

1959: The Whirlwind computer shuts down for the last time. (a)

1959: IBM develops its 1401 computer that used only transistors. (a)

1959: Xerox introduces the first commercial copy machine. (e)

1959: Jack Kilby at Texas Instruments designs a flip-flop IC. (e)

1959 [July]: On July 30, Robert Noyce and Gordon Moore file a patent application for integrated circuit technology on behalf of the Fairchild Semiconductor Corp. (e)

1959: UNESCO sponsors the first major international computer conference. (e)

1959: General Electric produces the GE ERMA to process checks in a banking application via magnetic ink character recognition. (e)

1959: The ACE machine is constructed at the National Physical Laboratory. (w)

1959: The Harvard Mark I is shut down for the last time. (w)

1959 [December]: Digital Equipment Corporation announces the development of the PDP-1. It contained 4K 18-bit words of core, used paper tape and a cathode ray tube at a cost of \$159,000. (a)

1959: People have created more than 200 programming languages. (t)