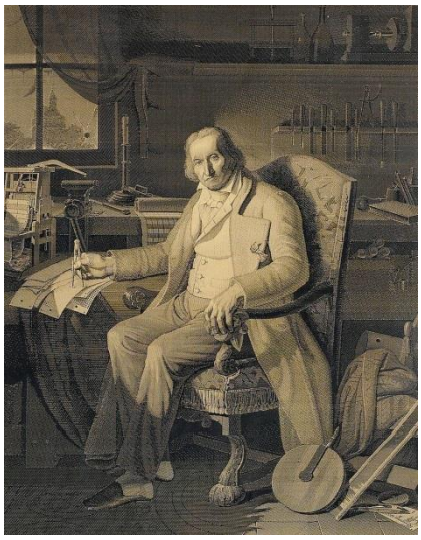
March

Jacquard's Portrait

March 1840

In Lyon, sometime during 1838, Michel-Marie Carquillat wove a portrait of Joseph-Marie Jacquard [July 7] in silk on a Jacquard loom. The machine employed 24,000 cards, each containing over 1000 holes.



"A la mémoire de J.M. Jacquard", Michel-Marie Carquillat (tisseur).

Jacquard is shown sitting in front of a work bench, holding a pair of calipers against some punch card strips. A model of his loom is on the table.

The original picture was an oil portrait by Claude Bonnefond, and Carquillat took several months to convert it into punched cards since the image contains some tricky elements such as a translucent curtain. After "programming" was completed, the weaving probably took eight hours. All this for a picture that's just 55 x 34 cm, minus the border.

Ten copies are known to exist, including ones at the Metropolitan Museum of Art, the Science Museum in London, the Chicago Art Institute, and the Computer History Museum [Sept 24]. Charles Babbage [Dec 26] owned a copy which he brought out during parties to illustrate his plans for the Analytical Engine [Dec 23] (which would use punched cards). These soirees were held on Saturdays during the 'season' in London, lasting from late March until the end of July. We know that Babbage talked about the picture at one in March 1840, which is the reason for placing this entry here.

A Logic Named Joe

March 1946

"A Logic Named Joe" is a sci-fi short story by Murray Leinster published in the March 1946 issue of *Astounding Science Fiction*. The story appeared under Leinster's real name, William Fitzgerald Jenkins.

It details a world where computers, called "Logics", are connected to a vast repository of data called the "tank". Every home is equipped with a Logic that serves as a reference source, entertainment console, and communication device.

One such Logic, called Joe, begins to malfunction, becoming self-aware, and resolving to provide his owners with whatever information they require, even the stuff which is usually restricted via "censor-circuits". This small revolt encourages other Logics to start providing useful tips, such as how to cover up drinking binges, rob banks, and poison spouses. Only when Joe is taken offline is order restored.

The Computer History Museum [Sept 24] has called the story "one of the most prescient views of the capabilities of computers in a network."

Harvard Mark I Manual Published

March 1946

Howard Aiken [March 8] and Grace Hopper [Dec 9] published "A Manual of Operation for the Automatic Sequence Controlled Calculator" which included the earliest published examples of digital computer programs, in this case for the Harvard Mark I [Aug 7].

The report also represents the first extended analysis of programs since Ada Lovelace's [Dec 10] "Sketch of the Analytical Engine Invented by Charles Babbage . . . with Notes by the Translator" [July 10].

Aiken liked to see himself as Babbage's successor, and the document included a section placing the Mark I in this historical context. Aiken had included something similar in his ASCC proposal [Jan 17].

Hopper was the main author of chapters 1-3 and eight appendices. Chapters 4 and 5 were written by Aiken and Robert Campbell, and chapter 6, containing directions for solving sample problems on the machine, was the work of Brooks J. Lockhart and Hopper.

Campbell oversaw the move of the ASCC to Harvard in Feb. 1944, and programmed and ran the first problems on the machine. The other war-time programmer was Richard Bloch.

Aiken and Hopper followed the manual's publication with three articles in *Electrical Engineering* in issues 8, 10, and 11 in 1946. They summarized the Mark I's features, and included a few example algorithms.

As per usual, not every historian agrees that this manual represents the first publication on programming a digital computer. Some point to "A Tentative Instruction Code for a Statistical EDVAC" from 1947, which describes the instruction set for the UNIVAC [March 31].

For the first textbook on computing, see [May 00].

Popular Mechanics Predicts Weight

March 1949

A good example of a computing prediction that turned out to be

wildly inaccurate appeared in the March 1949 issue of *Popular Mechanics*:

"Where a calculator like ENIAC [Feb 15] today is equipped with 18,000 vacuum tubes and weighs 30 tons, computers in the future may have only 1,000 vacuum tubes and perhaps weigh only 1.5 tons."

This astute prophecy failed to factor in the massive effect the transistor [Dec 16] would have on computer design, which was hardly surprising since the technology was only a little over a year old.

Transistorized computers of the early 1950's include Bell Lab's TRADIC [March 14], the Harwell CADET [Feb 00], and MIT's TX-0 [Nov 20]. Probably the first was the Manchester TC [Nov 16].

On the commercial side, IBM demoed its 608 on [Oct 7] 1954, but billed it as the first all-transistor *calculator*. When it went on sale in Dec. 1957, it used 3,000 transistors and weighed 1.2 tons (which is close to *Popular Mechanics*' weight estimate).

Bendix G-15 Released

March 1956

The Bendix G-15 was remarkably tiny, perhaps the smallest commercially available electronic digital computer of its time, although it was still "refrigerator sized." The basic system consisted of a 5 by 3 by 3 foot cabinet, weighing around 966 pounds.

Its 'diminutive' proportions were a consequence of the simplicity of its internals (450 vacuum tubes plus 3,000 germanium diodes) and its use of a magnetic drum rather than mercury delay lines for memory. The chief designer was Harry Huskey [Jan 19].

The G-15 was also remarkably inexpensive: the base system cost just $60,000, or was available at the low-low monthly rent of just $1,485. Running costs were also less since the G-15 ran Intercom 1000 (a primitive OS) which meant that it didn't need a dedicated operator.

A Bendix G-15. Photo by Gah4. CC BY-SA 4.0.

Over 400 G-15s were manufactured, making it one of the most popular computers of the early 1960's. For instance, a G-15 was the first machine used by Ken Thompson [Feb 4]. However, the G-15's success wasn't enough to establish Bendix as a major player, and Control Data Corporation [July 8] later took over its computer business.

One interesting add-on was the GAMBIT electronic roulette game. Players put "chips" on a large board, and the computer figured the odds, printing the winning numbers, while flashing various lights and ringing a bell. GAMBIT stood for "Game for Automation-Minded Bigwigs Insensitive to Treachery", and was developed for the G-15's appearance at the New York Automation Exposition in Dec. 1956.

The G-15 is sometimes called the first "personal" computer, but this (of course) is disputed. Other candidates include the LINC [May 24], the PDP-8 [March 22], and the IBM 610 [Sept 3]. However, Huskey had one installed in his home in 1955, making it the first "home computer". He also received one of the last production G-15s, fitted with a gold-plated front panel.

UNIVAC LARC Delivered

March (or June) 1960

The UNIVAC LARC (Livermore Advanced Research Computer) was designed according to the requirements of Edward Teller ("the father of the hydrogen bomb"), and was arguably the first supercomputer . Its main role was to run simulations for testing nuclear weapon designs.

It was built at Sperry Univac in Philadelphia with Herman Lukoff [May 2] as project director. Its architecture was designed by Arthur Gehring and Albert Tonik with circuitry by Josh Gray, assisted by Lukoff, Bill Winter, and Lloyd Stone.

The LARC consisted of four cabinets, each one approximately twenty feet long, four feet wide, and seven feet tall. There were twelve magnetic drums, each approximately four feet wide, three feet deep and five feet tall. Other hardware included eight tape units, a card reader, and a large printer. All this may explain why a new building was constructed at the Lawrence Radiation Lab to house the machine.

The LARC arrived in a convoy of five 18-wheel trailers, with a crew of approximately forty. It took two months to complete the installation and another two months to get the computer working.

The LARC CPU was able to perform an addition in about 4 ms, making it the fastest in the world until 1962 when the IBM 7030 STRETCH [April 26] arrived.

DECUS

March 1961

The Digital Equipment Computer Users' Society (DECUS) was founded by

Edward Fredkin [Oct 2] primarily as a software library. It went on to play a critical role in the distribution of games across the US during the 1970's, including: “Colossal Cave Adventure” by Will Crowther [March 11], “Star Trek” by Don Daglow [Sept 12], and “Hunt the Wumpus” by Gregory Yob [April 00]. It also helped to popularize commercial titles such as Zork [May 22] and Empire [May 00].

Notable user groups, in chronological order of their foundation, include SHARE [Aug 22], DECUS, USENIX [May 15], ACS [May 5], ACC [Dec 13], the Homebrew Computer Club [March 5], ACGNJ [June 13], A.P.P.L.E. [Feb 21], and the Chaos Computer Club [Sept 12].

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The Oldest Error Message

March 1963

Peripheral Interchange Program (PIP) was a utility to transfer files on and between devices on DEC computers [Aug 23]. It was first implemented on the PDP-6 by Harrison "Dit" Morse [Oct 26], and was subsequently ported to the PDP-10, PDP-11 [Jan 5], and others.

Development of the PDP-6 began in March 1963, and the machine was released in June 1964. The main OS was an early version of what later became TOPS-10 [Jan 4].

It has been said that during development PIP was called ATLATL, an acronym for "Anything, Lord to Anything, Lord."

Gary Kildall [May 19], who developed CP/M [June 22] in 1974, based much of its design on DEC OSes, which included borrowing ideas from PIP. Besides accessing files, the CP/M version could also transfer data to and from "special files", such as CON (the console), AUX (an auxiliary device), LST (the printer), PRN (also the printer but with formatting), and NUL.

MS-DOS [Aug 12] was based on 86-DOS (QDOS), which was derived from CP/M, and so inherited features from PIP. For example, the DOS copy command could be used to print a document by executing

```
copy myfile.txt prn:
```

The early versions of Windows [Nov 20] ran on top of DOS, and so the special filenames were retained, although Explorer stopped any attempts to create files using those names. This restriction has continued to the present day, which means that questions regularly appear about why Windows rejects files with names such as "aux.svg" or folders called "con"

The reserved names are currently CON, PRN, AUX, NUL, COM0, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT0, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, and LPT9. It's also invalid to use these names followed by an extension.

Curriculum ’68

March 1968

The March issue of the *Communications of the ACM* (CACM) included the article “Curriculum 68: Recommendations for academic programs in computer science” by William F. Atchison, Samuel D. Conte, and many others. It succeeded “An Undergraduate Program in Computer Science”, which had appeared in the CACM in Sept. 1965.

Curriculum ’68's main suggestion was to encourage university computer science departments to drop electronics and hardware courses in favor of more math and algorithm courses. It also advocated for a clear separation of academic computing from technical training, which should be left to vocational institutes, junior colleges, and the like.

Curriculum ’68 greatly influenced computer science education in the US and many other countries. However, it was also criticized for being too academic, too theoretical, and too narrowly focused. One reviewer accused it of a “deep nostalgia for mathematics by people who would like to label themselves mathematicians but certainly were not.”

About ten years later, a new committee led by Richard H. Austing published Curriculum ’78 (also in CACM, March 1979), which was far less prescriptive, and placed more emphasis on practical work. Naturally, it was criticized for lacking enough math, and for implicitly suggesting that computer science == programming.

IMLAC PDS-1 Released

March 1970

Many connoisseurs consider the IMLAC PDS-1 to be the first graphical minicomputer, preceding the much better

known Xerox Alto [March 1] by some three years.

The 14-inch monochrome vector display (not raster-based) was continually refreshed from local memory, and had a resolution of 1024 x 1024 addressable points. It could comfortably rest upon a small desk with additional controls in a separate breadbox-sized console. It was a 16-bit minicomputer, with 8-16 KB of magnetic core memory.

The IMLAC PDS-1 display and keyboard. (c) ubanproductions.com

When Chuck Thacker [Feb 26] was developing the Alto, he plumped for a bitmapped/raster screen partly due to the ugly text rendering on the PDS-1's at PARC.

The PDS-1 was surprisingly 'cheap' just $8300 before adding options, equivalent to four Volkswagen Beetles, while functionally similar to an IBM 2250 that cost 30 times more. By 1977, about 700 had been sold.

Its graphics capabilities meant it was used by several pioneering applications, including the FRESS hypertext system [April 18] and L. Peter Deutsch' DNLS (Display oN-Line System) whose predecessor, NLS, was the subject of Douglas Engelbart's "The Mother of all Demos" [Dec 9].

Of course, a significant number of games were ported to the PDS-1, including Spacewar! [May 17] and Frogger. "Maze War" [April 11], the first online multiplayer computer game, was coded on a pair of PDS-1's by Steve Colley in 1972-1973.

Diablo Hytype I

March 1972

A team at Diablo Data Systems led by David S. Lee, released the first commercially successful daisy wheel printer, the Diablo Hytype I. It was both faster and more flexible than IBM's golf-ball devices, being capable of 30 cps (characters per second), whereas IBM's Selectric [July 31] could only manage around 13 cps.

Xerox acquired Diablo that year, and after seven years of trying to make the division profitable, succeeded with the Diablo 630. It hadn't helped that Lee had left Diablo shortly after its purchase, and formed Qume Corporation, which soon came to dominate the daisy-wheel market.

The Diablo 630 could produce letter quality output as beautiful as an IBM Selectric, but at a lower cost and at double the speed. It also supported the entire ASCII character set.

The 630 was so successful that virtually all later daisy wheel printers, as well as many dot matrix printers [Dec 00], and even the original Apple LaserWriter [March 1], copied its command set or could emulate it. However, the technology rapidly became obsolete during the 1980's due to the spread of affordable laser [May 5] and inkjet machines [Feb 1].

Scelbi-8H

March 1974

The first advertisement for the Scelbi-8H appeared in the back of the March 1974 issue of *QST*, an amateur radio magazine, on p.154. Similar ads appeared soon after in *Radio-Electronics* and BYTE.

The Scelbi-8H (SCientific, ELectronic, and BIological, pronounced "sell-bee") was based on Intel's first 8-bit microprocessor, the 8008 [April 00], the predecessor to the 8080 [April 18]. It had 1 KB of RAM, but an additional 15 KB could be purchased for a mere $2760.

The machine was designed by Nate Wadsworth and Bob Findley, and is believed by many to be the first microprocessor-based computer kit to reach the market. The word "kit" is important, since the Micral N [Jan 15] was the earliest commercial, non-kit microprocessor-based computer (also using the Intel 8008), followed by Intel's Intellec series [June 4].

Incidentally, Wadsworth had been inspired to build the Scelbi-8H by a seminar Intel had given at General DataComm Industries where he worked as a design engineer.

The Scelbi-8H soon had competitors. In July 1974, *Radio-Electronics* published plans for a machine called the Mark-8 [July 00], and the Altair kit (using the 8080) appeared in the Jan. 1975 issue of *Popular Electronics* [Dec 19].

A Scelbi-8H Prototype. Photo by Nate Wadsworth. (c) http://www.scelbi.com/

The Scelbi-8H didn't come with a high-level language such as BASIC, which prompted Wadsworth to write the book, "Machine Language Programming for the 8008 and Similar Microcomputers". He had the spare time because he

was in hospital, recovering from a heart attack.

It became a popular text because the similarities between the 8008 and the 8080, meant it was easy to apply its techniques to different machines (as the book's title suggests). In fact, Scelbi eventually stopped making hardware altogether, and concentrated on books and software.

Shockwave Rider
March 1975

"The Shockwave Rider" is a sci-fi novel by John Brunner notable for the book's coining of "worm" to describe a program that propagates itself through a network. For example:

> "According to recent report, there were so many worms and counter-worms loose in the data-net now, the machines had been instructed to give them low priority unless they related to a medical emergency."

It's sometimes claimed to be the first cyberpunk novel [Dec 30].

John F. Shoch and Jon A. Hupp of Xerox PARC [July 1] chose to use the book's nomenclature in their paper, "The Worm Programs", published in CACM, March 1982. In the acknowledgements, they thank Stephen A. Weyer for pointing out the relevance of Brunner's novel.

The first real-world worm was written by Shoch and Hupp in 1978 to find idle processors on a network and assign them tasks. The worms were self-limiting, so wouldn't spread indefinitely. Two other, more traditional, examples are "Christmas Tree" [Dec 9], and the Morris worm [Nov 2] from the end of the 1980's.

The related word "virus" was coined by Leonard Adelman [Dec 31], and first used publicly by Fred Cohen on [Nov 3] 1983.

Boss Key Proposed
March 1981

A boss key is a keyboard shortcut to quickly hide a game, often by drawing a dummy spreadsheet, database, or business chart over it on the screen.

The boss key was first used in the Apple II [June 5] arcade-style game "Bezare," written by John Besnard and published by Southwestern Data Systems (motto: "Software Purveyors to the Milky Way"). Ctrl-B would bring up a spreadsheet entitled "1982 Outer Space Simulations Inc.".

The concept was proposed by Roger Wagner (founder of Southwestern Data Systems) during a conversation with Doug Carlston (of Brøderbund Software [Feb 25]) while they were on a hang-gliding trip to Mexico in March 1981.

"Bezare" was also the first arcade-style game played from the viewpoint of the aliens, who have to ward off invading Earthlings. The front of the box used an alien-style font, and information on the back claimed that the game was the work of Nhoj Dranseb, a leading programmer from the Bezardian planetary system.

BRIEF UnderWare
March 1983

BRIEF (or B.R.I.E.F.), a backronym for "Basic Reconfigurable Interactive Editing Facility", was a popular programmer's text editor of the 1980's, when it held around 65% of that market.

BRIEF was developed by UnderWare Inc., founded by David Nanian and Michael Strickman in 1983. It was inspired by the Emacs editor [Oct 2], but with extras such as a C-like macro language.

The first advert for BRIEF UnderWare appeared in the March 1983 issue of BYTE, announcing itself as a "Program Editing Breakthrough!".

BRIEF clones included "Short", "Crisp", "Terse", and "Boxer" . In the history of men's apparel, briefs date from Jan. 19, 1935, while boxers came along in 1925.

First Internet Cafés
March 1988

The first online café was opened by Ahn Sang-Su and Keum Nuri in front of Hongik University in Seoul.

Cyberia (summer 1995). Photo by Roger Green. CC BY-SA 4.0.

Probably the next one was started by Wayne Gregori in San Francisco in July 1991. His self-built coin-operated terminals were located in twenty coffeehouses around the Bay Area. They dialed into the 32-line SF Net bulletin board that offered services such as FIDOnet mail [Dec 1] and, in 1992, Internet mail.

Early in 1994, Ivan Pope was commissioned to develop an Internet event for "Towards the Aesthetics of the Future," an arts weekend at the Institute of Contemporary Arts (ICA) in London. His proposal included the novel concept of a café with Apple Macintosh's [March 19] with Internet access on each table. Pope's Cybercafe (he coined the word), was the first Internet café, but only operated during the event, March 12 - March 13, 1994

On Sept. 2 (or 1), 1994, Cyberia, London's first commercial Internet café, was opened by Eva Pascoe and Gene Teare at 39 Whitfield Street. Early investors included Mick Jagger [Dec 7].

As the 2000's progressed, the idea of going somewhere specifically to get online became a bit blasé – smartphone and Wi-Fi made special cafés unnecessary. Nevertheless, they've remain popular, perhaps because everyone needs a coffee sometimes.

One significant use-case for Internet cafés in Japan (and other countries) are as cheap places for the homeless to sleep.