John van Geen
Born: Aug. 17, 1929;

Etterbeek, Belgium
Died: June 6, 2000

Although the acoustic coupled modem had been around since the early 1960s (e.g. the Weitbrecht Modem [April 11]), it wasn't until van Geen improved the device in the mid 1960s that modems started being used more widely. For instance, they were key to the rise of dial-up BBSs.

One of van Geen's changes was to have the modem better mimic an ordinary handset, which allowed the phone companies to legally approve their use attached to phone lines. He also greatly improved the modem's ability to extract data from noisy telephone connections.

An early commercial model from 1970 based on van Geen's work was the Livermore Data Systems Model A, housed in a finely-crafted wooden box. It could transmit up to 300 baud (bits/sec), but 150 was more typical. Nevertheless, that was sufficient for typewriter-based terminals, such as the IBM 2741 [July 31], which ran at 134.5 baud, or a teleprinter that produced 110 baud.

Margaret Heafield Hamilton
Born: Aug. 17, 1936;

Paoli, Indiana

Hamilton led the team that developed the on-board flight software for the Apollo Guidance Computer (AGC [Aug 25]), both in the command module and the lunar lander.

The software supported error detection and recovery, and utilized techniques such as asynchronous processing, and priority scheduling. Hamilton also coined the term "software engineering" during the early days of Apollo, which included ideas like end-to-end testing.
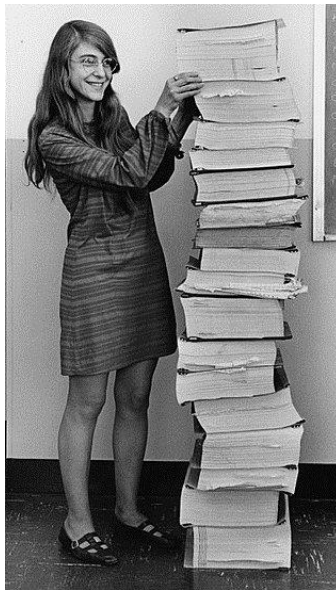
Hamilton in 1969, standing next to listings of the software she and her team produced for Apollo. Photo by the Draper Lab; restored by Adam Cuerden.

The software proved so robust that no bugs ever arose during crewed missions, and it was later adapted for use in Skylab [Feb 1], the Space Shuttle [Feb 24], and in early digital fly-by-wire systems.

Before joining NASA, Hamilton worked on the SAGE project [June 26], where she wrote software for tracking enemy aircraft, and prior to SAGE she had helped Edward Lorenz program MIT's LGP-30 [Sept 00] to perform the numeric calculations that led to the discovery of chaotic systems.

Cleve Moler
Born: Aug. 17, 1939;

Salt Lake City, Utah

In 1967, George Forsythe [Jan 8] and Moler published an influential textbook about matrix computation with examples coded in ALGOL, FORTRAN, and PL/I.

Moler was also one of the authors of LINPACK and EISPACK, FORTRAN [Feb 26] libraries for numerical computing (linear algebra and eigenvectors respectively), which became de facto standards in the 1970's.

Later he invented the MATLAB (Matrix Laboratory) language to make it easier to access those libraries without writing fusty, old FORTRAN. MATLAB became one of the most popular languages for numerical computation work.

The story goes that Moler first considered commercializing MATLAB in the early 1980s, which involved a visit to a fledgling software company, called Microsoft [April 4], based near his university in Albuquerque. When he arrived for his meeting, there was a handmade notice stuck on the door saying the company had relocated to Redmond, Washington, which meant that Moler never got a chance to pitch MATLAB. Unfortunately, this story contains at least one inaccuracy – Microsoft moved to Bellvue at the start of 1979, and only to its Redmond campus on [Feb 26] 1986. In any case, undeterred by Microsoft's lack of interest, Moler co-founded MathWorks with Jack Little in 1984 to sell MATLAB.

Lawrence (Larry) Joseph Ellison
Born: Aug. 17, 1944;

New York City

Ellison was the co-founder of Oracle Corporation and its CEO until Sept. 2014.

During the 1970s, Ellison worked for Ampex Corp., under Bob Miner. One of their projects included building a database for the CIA called "Oracle". As a source of inspiration, Ed Oates introduced Miner and Ellison to the ground-breaking paper by E. F. Codd [Aug 19] on relational database systems (RDBMS) [May 1].

On June 16 1977, Oates, Miner, and Ellison founded Software Development Labs with an

initial investment of $2,000, $1,200 of which was Ellison's. The company began developing a SQL-based [May 1] RDBMS, called Oracle 2 (there was no version 1), and later changed their company name to Oracle. Miner was the head engineer in the early years.

Although IBM dominated the mainframe relational database market (with DB2 [June 7]), it unwisely delayed entering the PC relational database market , leaving the door open for Sybase, Oracle, and others.

On April 20 2009, Oracle announced its intention to buy Sun Microsystems [Feb 24]. The acquisition gave Oracle control over Java [May 23] and the MySQL open source database [March 3].

Today, Oracle's main competition comes from IBM's DB2 and from Microsoft's SQL Server. Earlier competitors, such as Sybase and Informex, have been vanquished.

SWAC
Aug. 17, 1950

The SWAC (Standards Western Automatic Computer) was developed at the National Bureau of Standards (NBS) under the direction of Harry Huskey [Jan 19], and was formally handed over to the Institute for Numerical Analysis in Los Angeles on this day.

The SWAC, including Williams-Kilburn tubes (center background). National Institute of Standards and Technology.

The SWAC and the SEAC (Standards Eastern Automatic Computer) [June 20] were both built at the NBS, but at different sites in Los Angeles and Washington respectively. They were built rapidly and cheaply, to satisfy short-term computing needs while the longer-term, fancier IAS [June 10] and the UNIVAC [March 31] were being developed.

Inevitably, there were a few problems – the SWAC first used Williams-Kilburn tubes [Dec 11] for memory, which proved unreliable. They were eventually replaced by a magnetic drum unit, but the machine wasn't fully operational until the middle of 1953.

Subsequently, the SWAC did useful work, including discovering new Mersenne primes [Jan 30]. Also, Dorothy Hodgkin utilized the SWAC during her X-ray analysis of the structure of vitamin B12, which contributed to her receiving the Nobel Prize [Dec 10] for chemistry in 1964 for her advances in X-ray crystallography.

LISP 1.5 Manual
Aug. 17, 1962

The LISP [April 15] 1.5 Programmer's Manual by John McCarthy [Sept 4], Paul W. Abrahams, Daniel J. Edwards, Timothy P. Hart, and Michael I. Levin was released on this day. It was also published as a book by MIT Press – probably on the same day – and remained in print until quite recently.

Although it was a reference manual rather than a textbook, many people learnt LISP from it, and several even managed to implement their own LISPs based on its description of the language. Page 13 is particularly amazing: it contains an interpreter for LISP, written in LISP, which takes up hardly more than half of a page.

There was an earlier draft version, dated July 14 1961, which was also a popular read for aficionados. Its list of authors was even longer, but was headed by McCarthy and Marvin Minsky [Aug 9].

First Software Patent
Aug. 17, 1966

The first software patent may be the British "A Computer Arranged for the Automatic Solution of Linear Programming Problems" which was filed on May 21, 1962 by P. V. Slee and P. M. J. Harris of British Petroleum. It described memory management for the simplex algorithm [Nov 8] which could be implemented purely in software. The patent, GB 1039141, was granted on this day.

The first US software patent was awarded on [April 28] 1968; it described a sorting system.

Exactly what can be classed as a software patent is a tricky legal issue. For example, US patent law excludes "abstract ideas", and this has been used to reject a few software patents. Indeed, it wasn't until 1990 that the US Supreme Court ruled that software was patentable at all. In Europe, "computer programs as such" are excluded from patentability, although they can be copyright protected as works of literature.

CDC STAR-100
Aug. 17, 1971

On this day, CDC [July 8] announced that General Motors had placed the first order for its STAR-100, one of the earliest vector supercomputer.

The name "STAR" was a combination of "STring" and "ARrays", and the 100 came from 100 million floating point operations per second (MFLOPS), the speed at which the machine was designed to

operate. The CDC 7600 [Dec 3], then the world's fastest supercomputer, had a peak performance of a mere 36 MFLOPS. However, the STAR-100's actual speed, running under more usual load conditions, turned out to be somewhat lower, which was one reason why CDC lost its dominance of the supercomputer market after the Cray-1 [March 4] was announced in 1975.

First CD
Aug. 17, 1982

Philips manufactured the world's first Compact Disc (CD) (not counting test pressings) in Langenhagen, just outside Hanover. It contained "The Visitors", the eighth and final studio album by Swedish pop group ABBA, which had been out on vinyl since Nov 1981.

ABBA on AVRO's TopPop (a Dutch TV show) in 1974. CC BY-SA 3.0.

By the time CDs went on sale in November, about 150 titles had been produced, most of them of classical music. However, the first CD to be commercial released in October was Billy Joel's "52nd Street" in Japan, to coincide with the launch of the first Audio CD player, the Sony CDP-101 [Oct 1].

The CD format had been co-developed by Philips and Sony, who had set up a joint task force in 1979. Philips first demonstrated a prototype at a press conference on March 9, 1979.

The original storage capacity was to be enough for one hour of audio, which required a disc diameter of 115 mm. This was later changed to 120 mm so a disc could hold 74 minutes of music, enough for a complete performance of Beethoven's 9th Symphony.

The format was subsequently adapted for the storage of data (as the CD-ROM), and codified in the Red Book CD-DA standard in 1980. Several other competing formats also appeared which caused problems; see [Sept 1].

Act One Poetry
Aug. 17-18, 1989

UCLA's "Symposium on Very High Speed Information Networks" was the first in a projected series of meetings on Advanced Computer Technologies, and so was called "ACT ONE".

The timing of the meeting was chosen to commemorate the 20th anniversary of the installation of the first Interface Message Processor (IMP) for the ARPANET, which took place at UCLA [Aug 30].

The symposium's name seemed to encourage a theatrical theme and a few of the speakers couldn't resist the temptation to present their poetic musings on the occasion.

RFC 1121 [April 7], compiled by Jon Postel [Aug 6], collects a few of the pieces, including three poems by Leonard Kleinrock [June 13], and "Rosencrantz and Ethernet" by Vint Cerf [June 23], which begins: "All the world's a net! And all the data in it merely packets come to store-and-forward in the queues a while and then are heard no more."

SQLite Released
Aug. 17, 2000

SQLite is a relational database management system (RDBMS), implemented as a C library, that supports most of the SQL-92 standard [May 1]. The main design goal was to allow it to run without installing a database management system or requiring a database administrator.

D. Richard Hipp designed the first version while working for General Dynamics on a contract for the US Navy on a damage-control system for guided-missile destroyers.

SQLite never became an official part of the project, so Hipp released it on the Internet on this day. It began to attract users, especially after someone reported that they'd got it to work on a Palm Pilot [March 10]. Vendors began asking to use the system, and SQLite 3.0 was partially funded by America Online [Oct 2].

SQLite has become a popular choice as embedded database software in applications such as Web browsers, making it arguably the most widely deployed RDBMS. SQLite is also one of the four formats approved for use by the Library of Congress [Oct 13].

Google's Android
Aug. 17, 2005

Android, Inc. was founded in October 2003 by Andy Rubin, Rich Miner, Nick Sears, and Chris White to develop, in Rubin's words, "smarter mobile devices that are more aware of their owner's location and preferences".

On this day, Google acquired Android for a very reasonable $50 million, with key employees, including Rubin, Miner, and White, staying on.

At around this time, it was decided to use Linux [March 14] as the basis for the Android OS, which meant that it could be offered to third-party mobile phone manufacturers for free. Google believed it could make money offering services that used the OS.

On [Nov 5] 2007, Google launched the public beta of version 1.0 of Android.

On [Sept 23] 2008, the first Android smartphone, the T-Mobile G1, was announced.