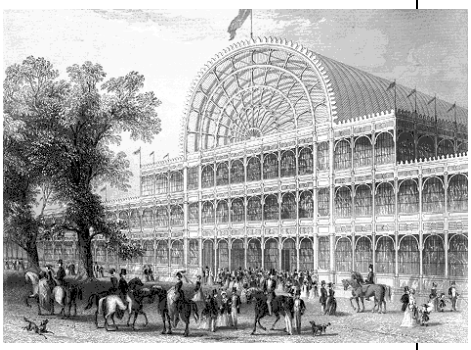
May 1st

Great Exhibition

May 1 - Oct 15, 1851

The Great Exhibition at the Crystal Palace in Hyde Park, London, was the first of three famous 19th century world's fairs. The others were the 1876 Centennial Exposition in Philadelphia [June 25] and the 1893 World's Columbian Exposition in Chicago [March 13].



The Crystal Palace, Hyde Park, London (1851).

Scientific instruments were gathered together in "Class 10" (there were 30 classes all told), and included electric telegraphs, microscopes, air pumps and barometers, as well as musical, horological, and surgical instruments.

Calculating machines were popular, with a gold medal awarded to Izrael Abraham Staffel for his device. The honor was something of a surprise, with most people were betting on Thomas de Colmar's [May 5] Arithmometer as the winner. Indeed, it was the Arithmometer that later launched the mechanical calculator industry. Prince Albert also sent Staffel £20, in appreciation of his invention.

Bashir Iskandarovich Rameyev

Born: May 1, 1918;

Baymak, Orenburg, Russia
Died: May 16, 1994

Rameyev was one of the founders of Soviet computing, being involved in the design of numerous computers including the STRELA and the URAL. He was the co-author with Issac Bruk [Nov 8] of the first USSR patent in the field of electronic computers, for an "Automatic Electronic Digital Machine" (1948).

The STRELA (1954) was the first regularly manufactured Soviet mainframe, employing around 6,200 vacuum tubes, Williams tube memory [Dec 11] and read-only semiconductor diode memory for programs. It could execute around 2,000 operations per second. One notable use of a STRELA was to calculate Sputnik's orbital trajectory [Oct 4].

Rameyev designed the first machine in the URAL series in 1956, with versions produced throughout the1960's. Ferrite core memory was used in the URAL-2 (1959), and the URAL-11 (1965) employed semiconductors. URALs were widely used in socialist countries.

Charles Simonyi [Sept 10] took old URAL-2 paper tapes with him into space on his visit to the ISS [March 26], as a reminder of how he learnt to program.

Other soviet computing pioneers include Sergey Lebedev [Nov 2], Georgi Lopato [Aug 23], and Boris Babayan [Dec 20].

Carver Andress Mead

Born: 1 May 1934;

Bakersfield, California

His classic textbook, "Introduction to VLSI Design" (1980), which he coauthored with Lynn Conway [Jan 10], promoted a very successful structured VLSI methodology for reducing microchip area by minimizing interconnections. It was the standard reference text for a generation of IC designers.

In 1972, Mead and graduate student Bruce Hoeneisen predicted that transistor sizes would eventually shrink to 0.15 microns. Despite doubts from the industry, Mead's prediction influenced the development of the necessary technologies, and when his prediction was proved true in 2000, the resulting transistor was very similar to the one he had described nearly 30 years before.

A quote: "Ignorance is not a position of strength."

Desk Set Released

May 1, 1957

The romantic comedy, "Desk Set", was directed by Walter Lang, and starred Spencer Tracy and Katharine Hepburn. It was based on a 1955 Broadway play by William Marchant.

Hepburn's character works in the reference department of a major TV network, and Tracy arrives to replace her library with a room-sized computer known as the EMMARAC ("Electro Magnetic Memory and Research Arithmetical Calculator", or "Emmy" for short). It's eleven feet high, fifteen wide, with a front panel of pulsating colored lights.

IBM placed real data-processing machines in theater lobbies as part of a reciprocal tie-in strategy. In return, the screenwriters enlarged the computer's role in the story.

This was the first time that IBM had used motion picture promotion to sell its products, due to Thomas Watson Jr. [Jan 14] having just taken over as CEO from his father. He also spearheaded a wider public relations campaign that saw IBM products appearing on quiz shows, the news, and variety

shows. For example, in March 1955, an IBM 701 [April 7] was pitted against broadcaster Jack Lescoulie in solving a complex multiplication problem on the "Today" programme.

Parts of EMMARAC, particularly its massive display, were seen again in other 20th Century Fox sci-fi productions, including "The Fly" (1958) and "Voyage to the Bottom of the Sea" (1961).

Technical blunders in the movie include users reading printouts upside down, and tape drive reels running in the wrong direction. At one point Shakespeare's "Hamlet" is encoded on just 20 punch cards.

Intergalactic Computer Network

May 1, 1962

The Intergalactic Computer Network (aka The Galactic Network) was proposed by J.C.R. Licklider [March 11] in a series of memos. It bears a striking resemblance to today's Internet, which is hardly surprising since the Internet's development was heavily influenced by these memos.

They describe how the spread of programs and information among computers connected in a network would create a system more powerful than could be built by any one organization.

Licklider and Welden ("Wes") E. Clark (not to be confused with Wesley A. Clark [April 10]) elaborated on these ideas in their paper, "On-Line Man Computer Communication", presented at AIEE-IRE '62 between May 1-3, 1962.

On [Oct 1], 1962, Licklider became the first director of DARPA's IPTO. Part of his mandate was to find a way to realize (and fund) his networking vision.

DTSS Switched on

May 1, 1964

The Dartmouth Time-Sharing System (DTSS), was the first large-scale time-sharing OS to allow multiple users to share a computer's time simultaneously. At 4:00 a.m., the system was officially switched on, and began running BASIC [next entry].

The system's implementation by a Dartmouth College student team had begun in 1963, under the direction of John Kemeny [May 31] and Thomas Kurtz [Feb 22]. On key design was immediate feedback; Kemeny and Kurtz observed that "any response time which averages more than 10 seconds destroys the illusion of having one's own computer".

At its height, the DTSS was accessed by 2,600 Dartmouth users, 5,550 people from ten other universities, and 23 high schools. By the early 1970's, the campus had more than 150 terminals in 25 buildings, and the system remained in operation until the end of 1999.

A view of Dartmouth College.

DTSS was first implemented using a General Electric (GE) 235 [May 00] connected to a smaller GE DATANET-30 (DN-30). The DN-30 accepted commands from teletype terminals [April 00] located around the campus, and ran programs on the GE-235.

In 1965, GE started packaging the DN-30 and GE-235 systems together as the GE-265 (i.e. 30 + 235), and it quickly became the first commercially successful time-sharing system

The DTSS was inspired by a smaller PDP-1-based time-sharing system at Bolt, Beranek and Newman [Nov 00]. However, the first time-sharing system was either the Compatible Time-Sharing System (CTSS [May 3]) at MIT, which began operating in Nov. 1961, or perhaps PLATO II [Aug 22], created by Donald Bitzer in early 1961.

Dartmouth BASIC

May 1, 1964

The first version of BASIC (Beginner's All-purpose Symbolic Instruction Code) was introduced at Dartmouth College as part of its DTSS timesharing system [previous entry].

BASIC was designed by John Kemeny [May 31] and Thomas Kurtz [Feb 22] to mimic the DTSS' interactive command line interface. Any line of code typed in by a user that began with a line number was added to their program; anything else was assumed to be a DTSS command and immediately executed.

At 4 a.m., in the basement of College Hall, Kemeny and a student programmer, John McGeachie, simultaneously typed RUN on neighboring terminals.

It's not completely clear what the first program might have been; it was either:

```
10 PRINT 2 + 2
```

or an implementation of the Sieve of Eratosthenes for finding primes numbers [Feb 23]. This seems unlikely since it would require at least ten lines of BASIC

The language was created mainly to give liberal arts students a taste of computing. It was made available to all DTSS users in June 1964.

Before BASIC, Kemeny and Kurtz had experimented with a few other teaching languages. For example, Kurtz and two students designed a language called Scalp (Self Contained ALGOL Processor). In 1962 Kemeny and

an undergraduate, Sidney Marshall, cooked up DOPE, the Dartmouth Oversimplified Programming Experiment.

Kurtz and Kemeny began a freshman programming course in the fall of 1964, which eventually standardized on giving each student 45 minutes of teletype time per week. They also cut back on the lectures: "We have found that two one-hour lectures are entirely adequate to introduce the novice to BASIC. By the end of the second hour he is raring to write his first program."

Kemeny and Kurtz never copyrighted BASIC, allowing dozens of variations to appear [Jan 2; June 10; Aug 1; Nov 00; Nov 18], and greatly enhancing its popularity in the process.

A quote by an anonymous programmer, who probably only knew FORTRAN [Feb 26]: "If FORTRAN is the lingua franca … BASIC is the lingua playpen."

AMD

May 1, 1969

The IC manufacturer Advanced Micro Devices (AMD) was founded by Walter Jeremiah (Jerry) Sanders, and seven colleagues from Fairchild Semiconductor [Oct 1]. Incidentally, nearly a year before [July 18], Robert Noyce [Dec 12] and Gordon Moore [Jan 3] had left Fairchild to form Intel.

Sanders kept a poster in his office which read, "Yea, though I walk through the valley of the shadow of death, I shall fear no evil – for I am the meanest son of a bitch in the valley." However, every employee was awarded stock options, a huge innovation at the time.

Another of Sander's sayings was "People first, products and profit will follow!" This was given as a printout to each new AMD hire.

In 1982, a licensing deal with Intel made AMD a second source of Intel chips for IBM. This gave AMD an enormous burst of growth, making it a serious competitor to Intel. Perhaps one result was that Intel stopped licensing its designs to AMD after the Intel 80386 [Oct 17] was released in 1985.

AMD responded by producing its own Am386 chip [Oct 12], essentially a reverse-engineered version of Intel's design. It also created a line of 32-bit RISC processors known as the Am29000 series, and diversified into graphics, audio devices, and EPROM memory. It had enormous success with its K6 [May 26], Athlon [June 23] and Opteron processors, and was the first company to produce a 1-GHz microprocessor [March 6].

In 2009, following a series of complaints lodged by AMD, the European Commission fined Intel a record €1.06 billion ($1.45 billion) for engaging in anticompetitive practices.

The 8-inch Floppy

May 1, 1971

IBM wanted an inexpensive way to send System/370 [April 7] software updates to their customers.

IBM Direct Access Storage product manager, Alan Shugart [Sept 27], assigned several design teams to the problem, and the IBM 23FD Floppy Disk Drive System (codenamed Minnow) was the outcome.

8" and 3.5" floppy disks (and a USB handy drive). Photo by Pamporoff.

The system utilized a read-only, 8-inch-diameter flexible diskette called the "memory disk," which held a whopping 80K of data.

Initially the disk was unprotected, directly exposed to the air. Dust and dirt were a problem, so IBM redesigned the disk with a plastic envelope lined with fabric.

The diskette was announced on this day, and a patent (US 3,668,658) was issued on June 6, 1972 with Ralph Flores and Herbert E. Thompson named as the inventors. The floppy disk drive patent (US 3,678,481) was issued on July 18, 1972, assigned to Warren L. Dalziel, Jay. B. Nilson, and Donald L. Wartner.

It wasn't until 1973 that IBM released a read/*write* floppy disk drive system, the 33FD; it soon became an industry standard.

SQL (SEQUEL)

May 1-3, 1974

SQL was developed at IBM by Donald D. Chamberlin and Raymond F. Boyce after learning about Ted Codd's [Aug 19] relational model.

Chamberlin and Boyce's first attempt at a relational database language was Square, but it was difficult to use due to its subscript notation.

Next up came SEQUEL (Structured English Query Language), designed to manipulate and retrieve data from IBM's relational database management system, System R [June 7].

On this day, Chamberlin and Boyce presented a paper on their work, "SEQUEL: A Structured English Query Language" at SIGFIDET '74 in Ann Arbor, Michigan.

The acronym was later changed to SQL because "SEQUEL" was already trademarked by the Hawker Siddeley aircraft company.

Chamberlin described the relationship between their work and Codd's by analogy: "Ted Codd provided the concept for a new house, and the people who designed and built System R were the ones who prepared the

detailed blueprints, poured the foundation, and did the carpentry work."

Unfortunately, IBM's corporate management was reluctant to adopt SQL because its existing IMS hierarchical database product [Aug 14] was selling well in the late 1970's.

However, in June 1979, Relational Software, Inc. (now Oracle Corporation [Aug 17]) released its own SQL-based RDBMS called Oracle 2 (there was no version 1).

Chamberlin later remarked, "We wrote the paper that Larry Ellison based his company on."

Coq Released

May 1, 1989

Coq is an interactive theorem prover which checks proofs based on supplied mathematical assertions, helps find proofs, and can extract a program from the constructive proof of a formal specification. When viewed as a programming language, Coq supports typed functional programming; as a logical system, it implements higher-order type theory.

Coq was developed by a team led by Thierry Coquand, after who the system is named, although coq means "rooster" in French, so the name also follows a French tradition of naming research tools after animals.

Development began in 1984, involving a collaboration between the École Polytechnique, University of Paris-Sud, Paris Diderot University, and CNRS.

Georges Gonthier and Benjamin Werner used Coq to create a proof of the four color theorem [June 21] in 2005.

In June 2021, "The Register" news site reported that the Coq community is currently looking for a new name since it has become impossible to ignore that Coq sounds like bawdy English slang.

So Many OpenOffices

May 1, 2002

On July 19, 2000, Sun Microsystems [Feb 24] announced that it would release the source code of StarOffice as the OpenOffice.org (OOo) project. Its website went live on Oct. 13, 2000, and version 1.0 was released on this day.

OpenOffice included a word processor (Writer), a spreadsheet (Calc), a presentation application (Impress), a drawing application (Draw), a formula editor (Math), and a database management application (Base).

A somewhat famous bug was the "OpenOffice will never print on Tuesdays" error, which meant that PostScript files [Oct 6] sent from Ubuntu [Oct 20] to a printer would not print if it was Tuesday.

The bug turned out not to be due to OpenOffice at all, or the UNIX CUPS printing system, or the Brother MFC420CN printer drivers. The error was in the UNIX `file` command which checked if the temporary print document was PostScript. For some reason the text "Tue/%%CreationDate:" was causing it to fail, but "Tue/%%CreationDate:" meant printing would work on every day, including Tuesday.

OpenOffice's ancestor, StarOffice, began in 1985 as StarWriter, implemented by Marco Börries at StarDivision. The integration of the other programs followed, and StarDivision began offering StarOffice for free in 1998. StarOffice was acquired by Sun in Aug. 1999.

Oracle [Aug 17] finalized its acquisition of Sun on Jan. 27, 2010 and commercial development of OpenOffice.org was terminated shortly thereafter.

Due to concerns over Oracle's management of the project, OpenOffice was forked to become LibreOffice on [Sept 28] 2010.

On June 1, 2011, Oracle announced that it was donating OpenOffice to the Apache Foundation [March 30]. Apache renamed it Apache OpenOffice.