

Summary

Development of Computers

The table below shows a summary of development of computers

Age	Name	Advancements	Use
Before Christ	Abacus	It was made of wood and beads.	Used by Asian merchants to count wealth
1614-1620	Log tables	Paper and pen	Used to calculate complex mathematical expressions
1647	Mechanical calculator	calculator	To solve complex mathematical expressions
1792-1871	Analytical engine	Computer	Combine arithmetic process with decision based on its own computer
1946-1956	First generation computers	Computer (used thermionic valves and vacuum tubes to process data)	Store and Process Data
1957-1963	Second generation computers	Computer (used transistors to process data)	Store and Process Data
1964-1979	Third generation computers	Computer (used integrated circuits (ICs) to process data)	Store, transmit and Process data with better storage and increased speed of processing
1979-1989	Fourth generation computers	Computer (used VLSI-very large scale integrated circuits to process data)	Store, transmit and Process data with better storage and increased speed of processing than 3G computers
1990-present	Fifth generation computers	Computer (use advanced VLSI in the name of microprocessor to process data)	Store, transmit and Process data with better storage and increased speed of processing, small in size and emit less heat and consumes less power. Faster than 4G computers and also portable.

Detailed Evolution

- The computer was born not for entertainment or email but out of a need to solve a serious number-crunching crisis. By 1880 the U.S. population had grown so large that it took more than seven years to tabulate the U.S. Census results. The government sought a faster way to get the job done, giving rise to punch-card based computers that took up entire rooms. Today, we carry more computing power on our Smartphones than was available in these early models. The following brief history of computing is a timeline of how computers evolved from their humble beginnings to the machines of today that surf the Internet, play games and stream multimedia in addition to crunching numbers.
- **1822:** English mathematician **Charles Babbage** conceives of a steam-driven calculating machine that would be able to compute tables of numbers. The project, funded by the English government, is a failure. More than a century later, however, the world's first computer was actually built.
- **1890:** **Herman Hollerith** designs a punch card system to calculate the 1880 census, accomplishing the task in just three years and saving the government \$5 million. He establishes a company that would ultimately become **IBM** (IBM was founded in 1911).
- **1937:** **J.V. Atanasoff**, a professor of physics and mathematics at Iowa State University, attempts to build the first computer without gears, cams, belts or shafts.
- **1941:** Atanasoff and his graduate student, Clifford Berry, design a computer that can solve 29 equations simultaneously. This marks the **first time a computer is able to store information** on its main memory.
- **1943-1944:** Two University of Pennsylvania professors—John Mauchly and J. Presper Eckert—build the **Electronic Numerical Integrator and Calculator (ENIAC)**. Considered the grandfather of digital computers, it fills a 20 foot by 40 foot room and has 18,000 vacuum tubes.
- **1946:** Mauchly and Presper leave the University of Pennsylvania and receive funding from the Census Bureau to build the **UNIVAC**, the first commercial computer for business and government applications.
- **1953:** **Grace Hopper** develops the first computer language, which eventually becomes known as **COBOL**. Inventor Thomas Johnson Watson, Jr., son of IBM CEO Thomas Johnson Watson, Sr., conceives the **IBM 701 EDPM** to help the United Nations keep tabs on Korea during the war.
- **1954:** The **FORTRAN** programming language is born.
- **1958:** Jack Kilby and Robert Noyce unveil the **integrated circuit**, known as the computer chip.
- **1964:** Douglas Engelbart shows a prototype of the modern computer, with a **mouse and a graphical user interface (GUI)**. This marks the evolution of the computer from a specialized machine for scientists and mathematicians to technology that is more accessible to the general public.
- **1970:** The newly formed Intel unveils the Intel 1103, the **first Dynamic Access Memory (DRAM) chip**.
- **1971:** Alan Shugart leads a team of IBM engineers who invent the “**floppy disk**,” allowing data to be shared among computers.
- **1973:** Robert Metcalfe, a member of the research staff for Xerox, develops **Ethernet** for connecting multiple computers and other hardware.
- **1974-1977:** A number of **personal computers** hit the market, including Scelbi & Mark-8 Altair, IBM 5100, RadioShack's TRS-80—affectionately known as the “Trash 80,” and the Commodore PET.
- **1975:** The **IBM 5100** becomes the first commercially available portable computer.

- **1976:** **Steve Jobs and Steve Wozniak** start Apple Computers on April Fool's Day and roll out the Apple I, the first computer with a single-circuit board.
- **1977:** Radio Shack's initial production run of the **TRS-80** was just 3,000. It sold like crazy. For the first time, non-geeks could write programs and make a computer do what they wished.
- **1977:** Jobs and Wozniak incorporate Apple and show the **Apple II** at the first West Coast Computer Faire. It offers color graphics and incorporates an audio cassette drive for storage.
- **1978:** Accountants rejoice at the introduction of **VisiCalc**, the first computerized spreadsheet program.
- **1979:** **Word processing** becomes a reality as MicroPro International releases WordStar.
- **1981:** The **first IBM personal computer**, code named "Acorn," is introduced. It uses Microsoft's MS-DOS operating system. It has an Intel chip, two floppy disks and an optional color monitor. Sears & Roebuck and Computerland sell the machines, marking the first time a computer is available through outside distributors. It also popularizes the term PC.
- **1983:** **Apple's Lisa** is the first personal computer with a GUI. It also features a drop-down menu and icons. It flops but eventually evolves into the Macintosh.
- The Gavilan SC is the first portable computer with the familiar flip form factor and the first to be marketed as a "laptop."
- **1985:** Microsoft announces **Windows**, its response to Apple's GUI. Commodore unveils the Amiga 1000, which features advanced audio and video capabilities.
- **1985:** The **first dot-com domain name is registered** on March 15, years before the World Wide Web would mark the formal beginning of Internet history. The Symbolics Computer Company, a small Massachusetts computer manufacturer, registers Symbolics.com. More than two years later, only 100 dot-coms had been registered.
- **1986:** Compaq brings the **Deskpro 386** to market. Its 32-bit architecture provides as speed comparable to mainframes.
- **1990:** **Tim Berners-Lee**, a researcher at CERN, the high-energy physics laboratory in Geneva, develops HyperText Markup Language (**HTML**), giving rise to the World Wide Web.
- **1993:** The **Pentium microprocessor** advances the use of graphics and music on PCs.
- **1994:** PCs become **gaming machines** as *Command & Conquer*, *Alone in the Dark 2*, *Theme Park*, *Magic Carpet*, *Descent* and *Little Big Adventure* are among the games to hit the market.
- **1997:** **Microsoft invests \$150 million in Apple**, which was struggling at the time, ending Apple's court case against Microsoft in which it alleges that Microsoft copied the "look and feel" of its operating system.
- **1999:** The term **Wi-Fi** becomes part of the computing language and users begin connecting to the Internet without wires.
- **2000:** Sony releases the **PlayStation 2**.
- **2001:** Apple unveils the **Mac OS X** operating system, which provides protected memory architecture and pre-emptive multi-tasking, among other benefits. Not to be outdone, Microsoft rolls out **Windows XP**, which has a significantly redesigned GUI.
- **2003:** The **first 64-bit processor**, AMD's Athlon 64, becomes available to the consumer market.
- **2004:** Mozilla's **Firefox 1.0** challenges Microsoft's Internet Explorer, the dominant web browsers.
- **2006:** Apple introduces the MacBook Pro, its **first Intel-based, dual-core mobile computer**, as well as an Intel-based iMac. Nintendo's Wii hits the market.

- **2007:** The **iPhone** brings many computer functions to the Smartphone.
- **2009:** Microsoft launches **Windows 7**, which offers the ability to pin applications to the taskbar and advances in touch and handwriting recognition, among other features.
- **2010:** Apple unveils the **iPad**, changing the way consumers view media and jumpstarting the dormant tablet computer segment.

Tablet age continues.....
