

history of computer

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History of Computer

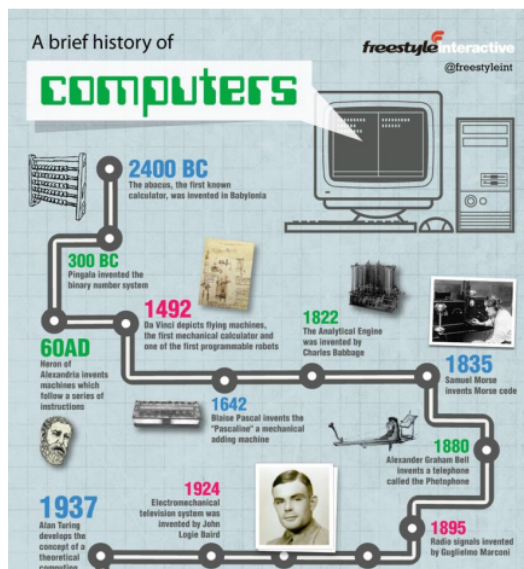
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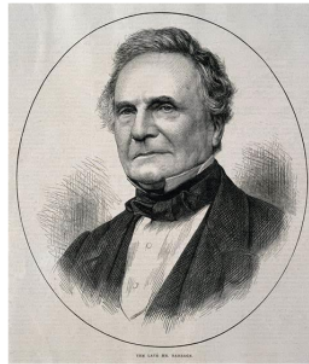
Main Body

[1] The first computer was created by Charles Babbage (pic 2, pic3), this born on December 26 ,1791 in London. Him was an English mathematician and invitory who is credited with having conceived the first automatic digital computer.²

This study examines the beginnings and development of computers, emphasizing how they changed from the first, uncomplicated, large designs to the modern, small, and advanced machines that we use. In sharp contrast to the sophisticated, modern devices, the original computers were big and simple at first. This paper will follow the development of computer technology from its beginnings to the present.

In our day-to-day lives, computers have become crucial. They help us with so many things, such as job, schooling, and keeping in touch with friends and family who may live far away. Computers also provide platforms for enjoyment, allowing us to watch movies, play video games, and more.

Comprehending the evolution and progression of computer technology can augment our recognition of their noteworthy



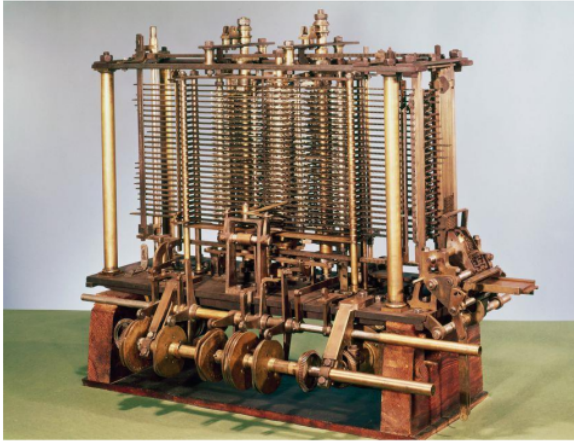
(pic.3);[charles](#)

[babbage - Search Images \(bing.com\)](#)

(Pic 2). [charles babbage - Search Images \(bing.com\)](#)

² [BBC - History - Charles Babbage](#)

³
[2] On completing it in 1832, he conceived the idea of a better machine that could perform not just one mathematical task but any kind of calculation. This was the Annalistic Engine (1856,), which was intended as a general symbol manipulator, and had some of the characteristics of today's computers. (pic 4)³



(Pic .4) [Babbage Analytical Engine 1837-5b7ea419c9e77c005731751e.jpg](#)
(850x648) (thoughtco.com)

⁶
[3] What is the historical significance of the Analytical Engine?

¹³
The Analytical Engine, designed and partially built by the English inventor Charles Babbage in the 19th century, holds immense historical significance. Let us delve into its groundbreaking contributions:⁴

[4] 1 First Computer Concept:

- The Analytical Engine is widely regarded as the first computer.
- While working on an earlier project called the Difference Engine, he began imagining ways to improve it and conceived the idea of a more versatile computing device.

³ [Analytical Engine | Encyclopedia.com](#)

⁴ [Copilot \(bing.com\)](#)

- ¹² The Analytical Engine was a general-purpose, fully program-controlled, automatic mechanical digital computer⁵<https://www.britannica.com/technology/Analytical-Engine>

⁵ [Lever | Simple Machine, Force Multiplication & Fulcrum | Britannica](#)

[5]2. Essential Components:

- Babbage's design included four essential components:
- The Mill: Analogous to today's central processing unit (CPU), it performed calculations.
- The Store: Held data before processing, akin to memory and storage in modern computers.
- The Reader and Printer: Input and output devices.
- These components laid the groundwork for the architecture of every computer today.⁶

[6]3. Ambitious Features:

The Analytical Engine's specifications were ambitious:

- A store capable of holding 1,000 50- digit numbers
- Steam-driven operation with a single attendant.
- Automated printing of tables of numbers.
- Data entry via punched cards, inspired by Joseph-Marie Jacquard's loom technology.
- Instructions also entered on cards, making it programmable and flexible.⁷

[7] 4. Legacy and Influence:

- Although the Analytical Engine was never fully constructed during Babbage's lifetime
- It laid the foundation for the information age and the digital revolution that followed.
- Babbage's visionary leap into the future of computing continues to resonate, even though the machine itself remained unrealized.⁸

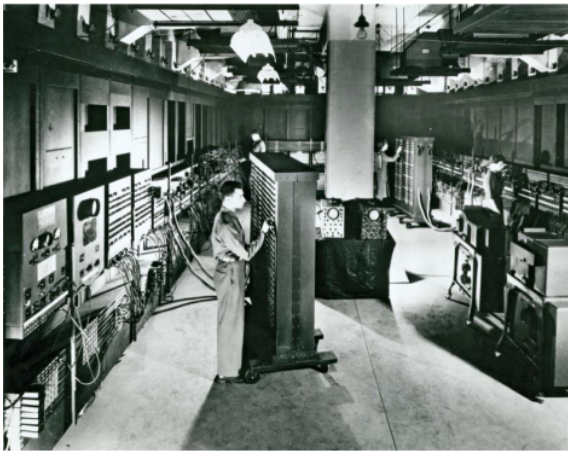
[4] [Analytical Engine | Description & Facts | Britannica](#) Written and fact
The Editors of Encyclopaedia Britannica

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⁴ 8] The first computer that resemble the modern machines we see today was invented between 1833 and 1871. He developed a device, the analytical engine, and worked on it for nearly 40 years. It was a mechanical computer that was powerful enough to perform simple calculation.

¹⁸ [9] ENIAC: (Electronic Numerical Integrator and Computer) (pic.4) was designed by Jhon Macaulay and Presper Eckert to calculate artillery firing tables for the United States Army's Ballistic Research Laboratory.

ENIAC was completed in 1945 and first put to work for practical purposes on December 10, 1945. This having cost \$487,000 (equivalent to \$6,900,000 in 2023).



(Pic.5) eniac - Search Images

(bing.com)

(Pic.5) [eniac - Search Images \(bing.com\)](#)

5

John Mauchly and J. Presper Eckert began work on the ENIAC computing machine in 1943 at the University of Pennsylvania's Moore School of Electrical Engineering. Its electronic technology, rather than electromechanical one, makes it over a thousand times faster than any prior computer. The ENIAC weighed thirty tons, took up more than a thousand square feet, employed panel-to-panel wiring, and switches for programming. Over the course of its ten years of operation, ENIAC was thought to have performed more calculations than all of humanity had up to that point.

[10]CSIRAC

Some early digital computers, like the CSIRAC, had original designs, while many others, like the IAS and its duplicates, were based on similar ones. Trevor Pearcey, a British-born engineer, invented the peculiar 12-hole paper tape used in CSIRAC, which was built in Sydney, Australia, for use in the Council of Scientific and Industrial Research's Radio Physics Laboratory. In 1955, it was moved to the University of Melbourne's Department of Physics, where it stayed until 1964.

An important role in the history of computers was played by the CSIRAC (Commonwealth Scientific and Industrial Research Automatic Computer), formerly known as the CSIR Mk 1. Permit me to offer some amazing information regarding this groundbreaking device:

Origins and Significance: CSIRAC was the sixth stored program computer in the world and the first digital computer in Australia.

Although the Zuse Z4 in the Deutsches Museum predates it, it was an electro-mechanical computer rather than an electronic one, making it the oldest surviving first-generation electronic computer.

Surprisingly, CSIRAC was the world's first computer to play digital music.¹² Construction and Operation: Maston Beard and Trevor Pearcey led a team that built the CSIRAC.

About November 1949, it performed its first test program, which involved multiplying numbers.

Following limited functioning starting in late 1950, it was completely exhibited in public.

¹ [11]EDSAC

The first practical stored-program computer to provide a regular computing service, EDSAC is built at Cambridge University using vacuum tubes and mercury delay lines for memory. The EDSAC project was led by Cambridge professor and director of the Cambridge Computation Laboratory, Maurice Wilkes. Wilkes' ideas grew out of the Moore School lectures he had attended three years earlier. One major advance in programming was Wilkes' use of a library of short programs, called "subroutines," stored on punched paper tapes and used for performing common repetitive calculations within a larger program.

The earliest 'computers' as we know them today—digital¹⁵ electronic, programmable calculating machines—were developed in the years immediately following World War II. During the years following World War II, Cambridge was home to some of the most significant early work in digital electronic computing. The University Mathematical Laboratory created the EDSAC, one of the first stored-program computers.

The emergence of computing

Electronic digital computers were developed in the interwar period as a result of a boom in electromechanical automation research and a good dose of inventiveness. 'Automatic'²⁶ computers from the early days, such as the Z3 built by Konrad Zuse and the Harvard Mark I by Howard Aiken, used electric relays and revolving wheels (as in adding machines).

The next important advance was the use of vacuum tubes to create faster electronic computers, which played a crucial strategic role in World War II. The British government had really constructed an older computer known as Colossus, but it was announced with much hoopla as the U.S.-made Electronic Numerical Integrator and Computer (ENIAC). Because it began with the code-breaking during the war, this had been kept a secret for many years.

[1, p. 12][12]Computer in this day:

In today's world, computers permeate every aspect of our lives. From the smartphones in our pockets to the laptops in our backpacks, the presence of computing technology is ubiquitous, integrating into our homes, schools, workplaces, and beyond. This widespread integration is a testament to the evolution and accessibility of computer technology, which has transformed the way we learn, work, and communicate.[12]

The Internet, a pivotal component of modern computing, has fundamentally altered how we connect and interact. Originally developed as a government project in the United States known as ARPANET in the late 1960s, the Internet was designed to facilitate communication between research institutions. It has since expanded beyond its initial scope to become a global network that connects billions of devices worldwide. This transformation was catalyzed by the advent of the World Wide Web in 1991, devised by Sir Tim Berners-Lee. The Web provided a graphical interface to the Internet, making it more accessible and user-friendly, which spurred its adoption across the globe.[13]

Computers today are not only tools for accessing information but also for creating and sharing it. The rise of digital media and the ease of publishing on the Internet have democratized information dissemination, allowing anyone with an Internet connection to share their thoughts, art, and innovation with the world. This shift has reshaped industries, from journalism and entertainment to education and politics.

In the realm of education, computers have revolutionized how knowledge is delivered and consumed. Educational technology, or EdTech, has introduced a plethora of digital resources, from online courses accessible on platforms like Coursera and Khan Academy to interactive tools that enhance learning through engagement and personalization. The COVID-19 pandemic highlighted the importance of such technologies, as schools and universities around the world turned to virtual classrooms to continue education amidst lockdowns.

The workplace has also seen significant transformations due to computer technology. The concept of a digital workplace is now a reality, where collaborative tools like Slack, Microsoft Teams, and Zoom enable teams to work together seamlessly, regardless of physical location. This shift has led to a reevaluation of traditional work models, promoting flexibility and remote work, which are becoming increasingly popular.[14]

Furthermore, the role of computers in personal communication cannot be overstated. Social media platforms such as Facebook, Twitter, and Instagram have not only changed how we connect with friends and family but also how we perceive and interact with the world. These platforms have become central to our social lives, influencing everything from daily communication to global movements.

The integration of computers into everyday objects through the Internet of Things (IoT) is another frontier in computing. Smart home devices like thermostats, security cameras, and refrigerators that connect to the internet are becoming common, enhancing convenience and energy efficiency. These devices collect and utilize data in real-time to learn from user behaviour, optimizing their functions to better serve the needs of their users.

Conclusion :

In conclusion, the role of computers today extends far beyond the desktops of the past. They are integral to almost every aspect of modern society, driving innovation and connectivity. As we look to the future, the potential for further integration of AI and machine learning promises to make our interaction with computers even more seamless and intuitive, heralding a new era of technological integration in everyday life.

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What we learn

The history of computers is a fascinating journey of innovation and transformation. From their humble beginnings as simple calculating machines to their current status as indispensable tools in modern society, computers have undergone a remarkable evolution. This progression has not only reshaped technology but also fundamentally altered how we interact with the world and each other.

Initially designed to handle basic arithmetic, the earliest computers were bulky, cumbersome, and accessible only to a select few. However, as technology advanced, these machines became smaller, faster, and more affordable. The introduction of personal computers in the late 20th century democratized access to computing power, bringing it into homes and businesses around the globe.

Today, computers are at the heart of the global infrastructure. They help us solve complex problems in fields ranging from medicine to engineering, enhance productivity in business, drive innovation in science, and create connections across the globe through social media and communication networks. The Internet, a byproduct of computer technology, has woven itself into the fabric of daily life, becoming a platform for education, entertainment, and social interaction.

Moreover, computers have become a tool for exploring and understanding the world in ways previously unimaginable. They process large volumes of data to provide insights in real-time, from predicting weather patterns to analysing economic trends. The growth of big data and analytics exemplifies how critical computers are in making informed decisions that impact every aspect of society.

As we look to the future, the potential for further advancements in computer technology holds promise for even greater impacts on daily life. The ongoing developments in artificial intelligence, quantum computing, and blockchain technology suggest that computers will continue to play a pivotal role in shaping our future. The journey of computers is an ongoing saga of human ingenuity, a testament to our relentless pursuit of knowledge and improvement.

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Breakdown

Engagement with literature 20/40

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Comment

Great work

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