

## History of Computer Science Timeline

---

### Textbook

---

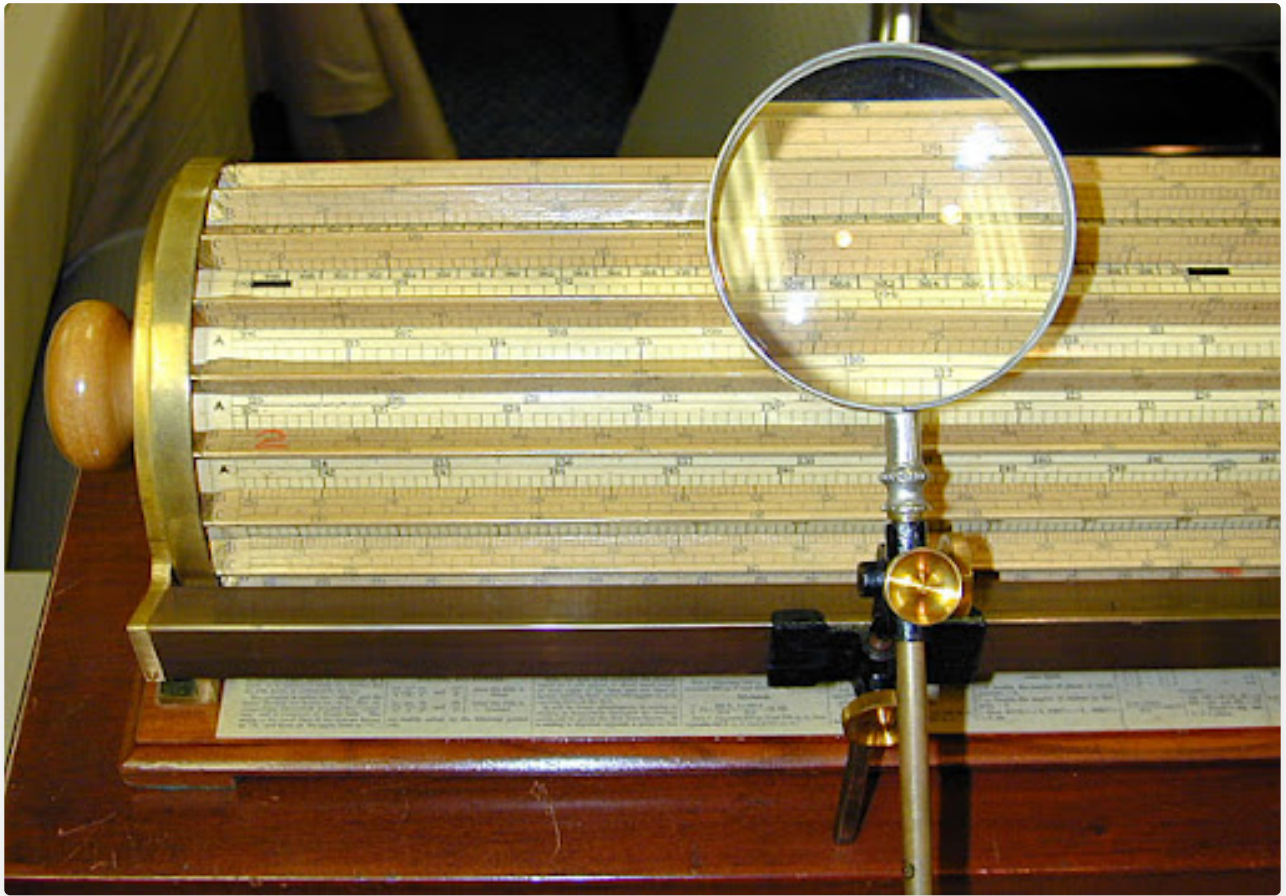
## History of Computer Science

200 BC



The Antikythera Mechanism was discovered in a shipwreck off the coast of a Greek Island. This interesting device dating back to the second century BC, had intricate gears and wheels that calculated the positions of the moon and stars with extreme precision. Many consider this to be the first example of a machine meant to help with calculations. In other words, a computer.





William Oughtred invented the slide rule—a device designed to help with mathematical calculations.





## INVENTIONS ILLUSTRES

Carnot visitant les ateliers de Jacquard

Joseph Marie Jacquard in France needed a way to weave automatic fabric designs. He decided to use wooden punch cards to direct the threads where to go. Similar punch cards were used in later computer programming systems.

**1832**

Charles Babbage invents machines called "The Analytical Machine and The Difference Machine" to automate arithmetic procedures.

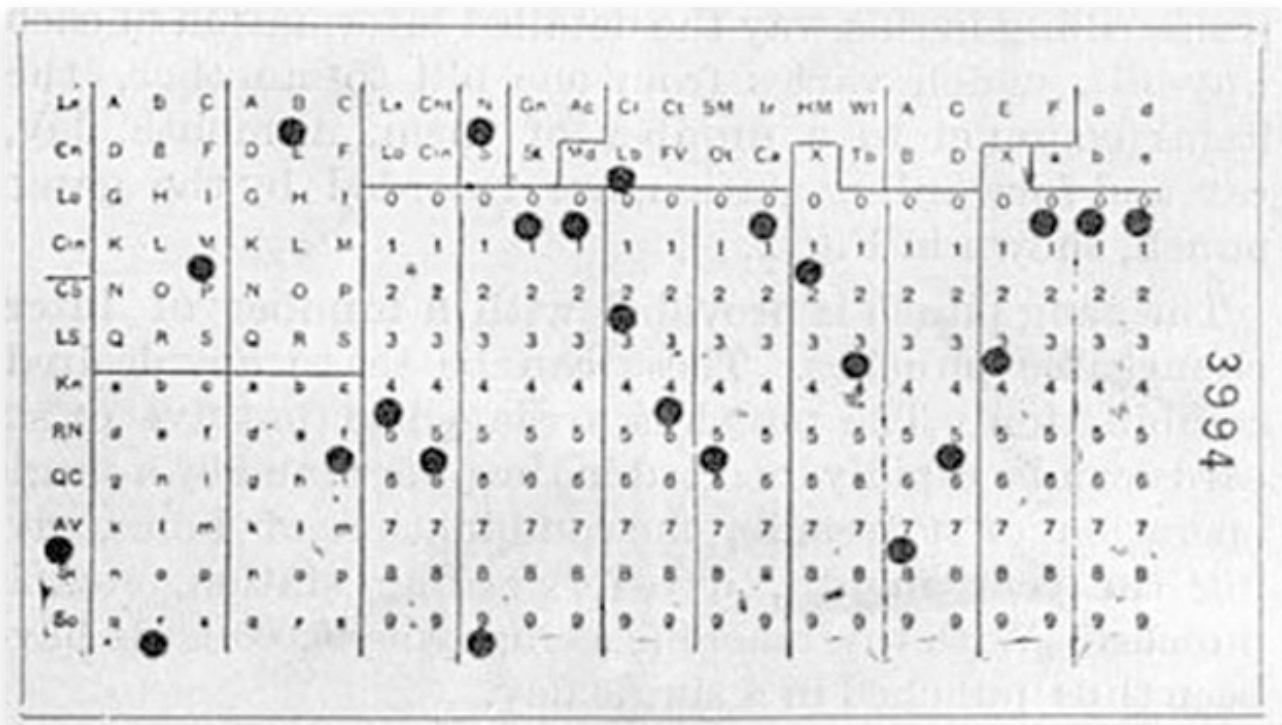
**1843**



Ada Lovelace has been called "the first computer programmer." In her notes on Babbage's analytical engine, Ada Lovelace described how codes could be created for the device to handle letters and symbols along with numbers. She also theorized a method for the engine to repeat a series of instructions, a process known as looping that computer programs use today.



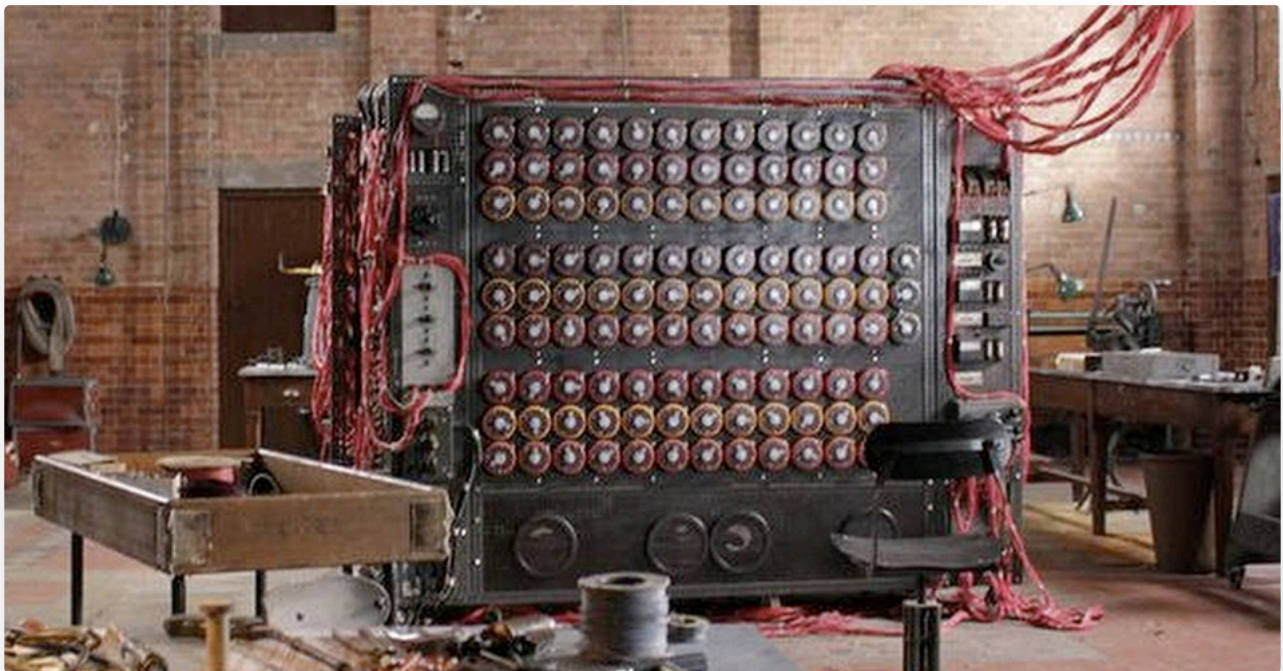
**1890**



La	A	B	C	A	B	C	La	Ch	N	Gn	Ac	Ci	Cl	SM	Ir	HM	Wl	A	G	E	F	a	d
Ca	D	B	F	D	L	F	Lo	Ch	S	Sk	Ma	Lb	FV	Ol	Ca	A	Tb	B	O	X	a	b	e
Lo	G	H	I	G	H	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ch	K	L	M	K	L	M	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
CS	N	O	P	N	O	P	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
LS	Q	R	S	Q	R	S	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Ka	a	b	c	a	b	c	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
RN	d	e	f	d	e	f	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
QC	g	h	i	g	h	i	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
AV	k	l	m	k	l	m	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Ch	n	o	p	n	o	p	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
So	q	r	s	q	r	s	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9

Herman Hollerith thought of a faster way to calculate the 1890 census. Using a system of punch cards, he was able to accomplish it in only 3 years which saved the government \$5 million dollars. His company will go on to become IBM.

**1936**



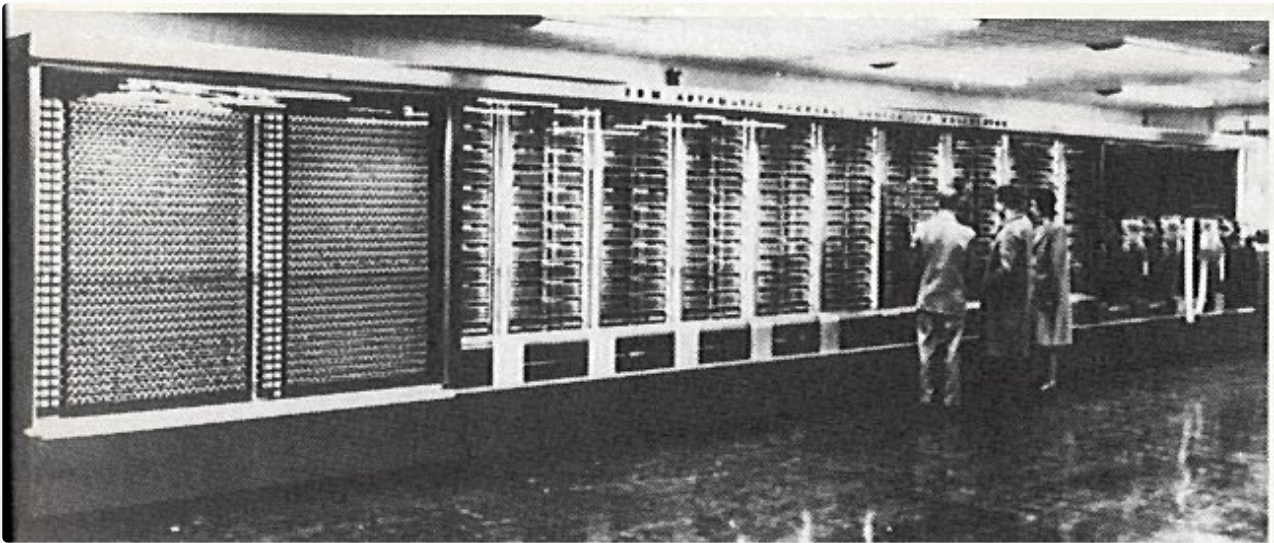
Alan Turing developed machines that helped to decipher code in World War 2. His efforts helped figure out the famous Enigma Machine used by the Germans. He invented the [Turing Machine](#), which is what modern computers are based off of.

**1941**

Clifford Berry and his teacher Atanasoff invent a computer that can compute 29 things at once. This was the first computer that was able to store information in a kind of memory base.

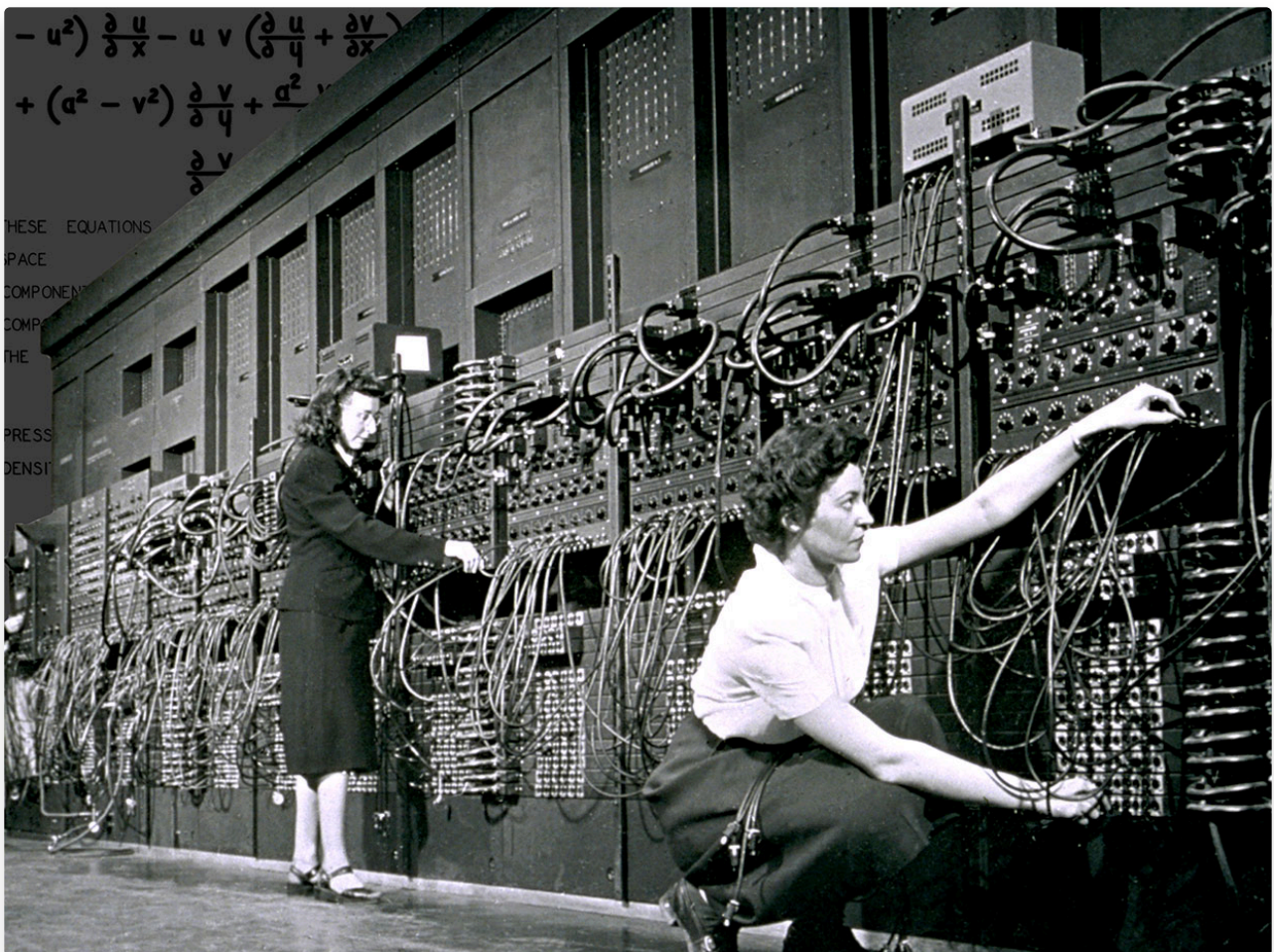


1943



Howard H. Aiken and his team complete the "ASCC Mark I" ("Automatic Sequence-Controlled Calculator Mark I"). The machine is 51 feet long, 8 feet high, weighs 5 tons, and incorporates 750,000 parts. It is the first binary computer built in the U.S. that is operated by electricity.

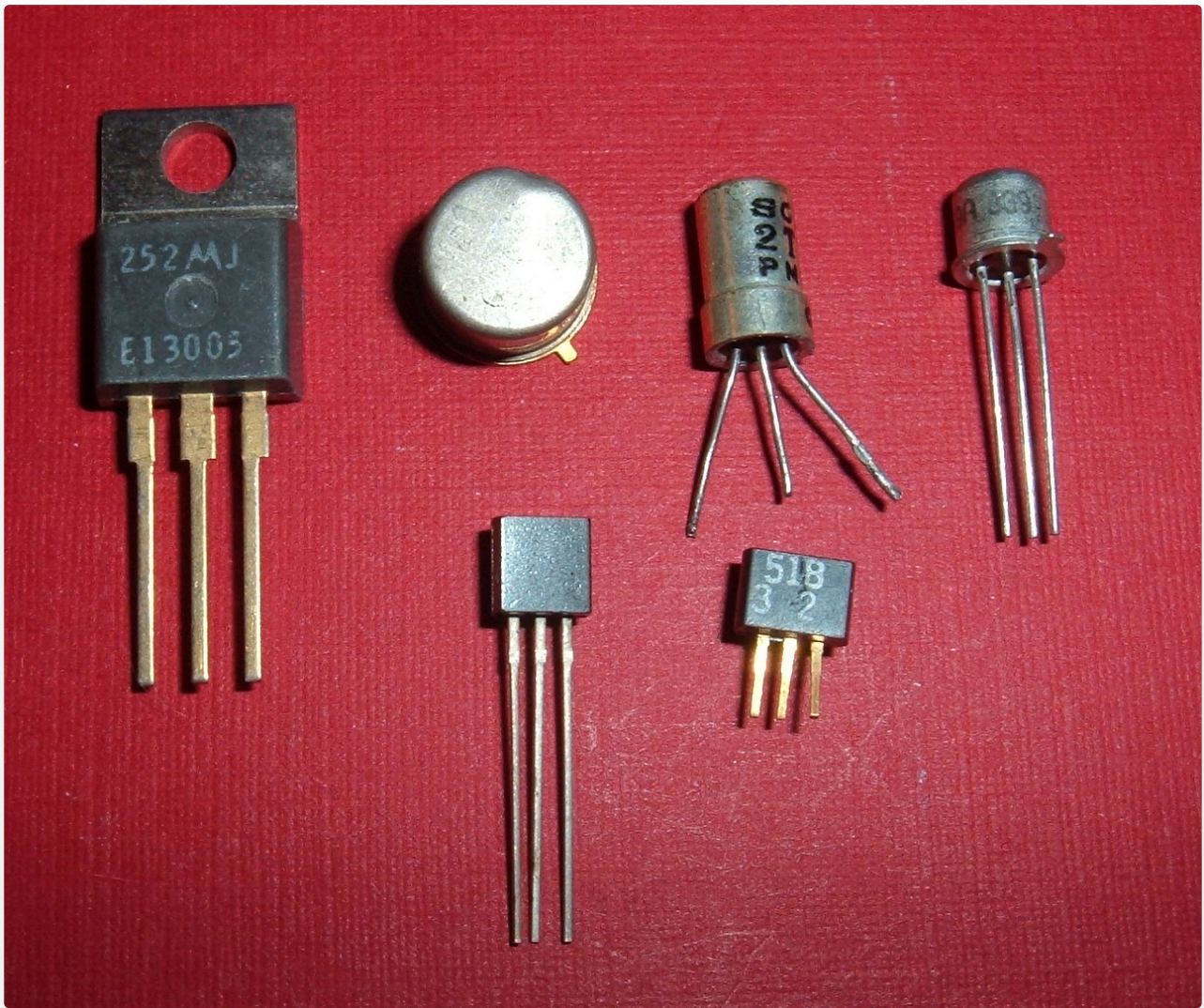
1944



John Mauchly and J. Presper Eckert build the Electronic Numerical Integrator and Calculator (ENIAC) in an effort to help the US Army Ballistics Laboratory. This machine that paved the way for modern computers fills a 20-foot by 40-foot room and has 18,000 vacuum tubes. These vacuum tubes were thought to be able to speed up computation power. It was believed that ENIAC had done more calculation over the ten years it was in operation than all of humanity had until that time.



1947



John Bardeen, William Shockley, and Walter Brattain invent the [transistor](#). These electric switches didn't need a vacuum and are still used in computers today.

1948

The first computer program was run on a computer. Their first program, consisting of seventeen instructions and written by Frederic Williams, Tom Kilburn, and Geoff Toothill was the first program in history to run on a digital, electronic, stored-program computer.

**1949**



Trevor Pearcey designed the SCIRAC which was a computer that used 12-hole paper tape to perform calculations.

**1953**

Grace Hopper invents the first computer language, which eventually becomes known as COBOL.

**1958**

Robert Noyce and Jack Kilby invent the computer chip that led the way for chips used today.



A photograph of a small, square wooden CD player. The device has a polished, reddish-brown wood grain. A single red button is located on the top surface. A silver-colored coiled cable is connected to the front of the device. To the left of the device, there is a small, light green electronic component with a black base and several gold-colored pins. The entire setup is placed on a plain, light-colored surface.

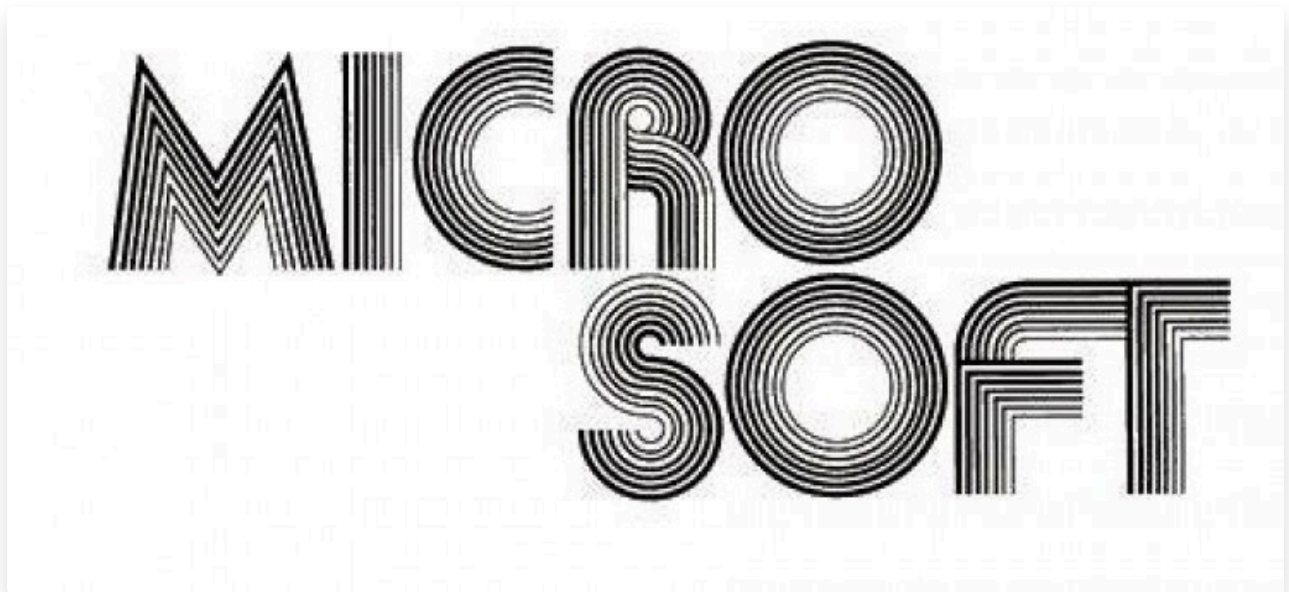
A stylized illustration featuring a smiling man with dark hair and a blue long-sleeved shirt, appearing to wave from behind a large white rectangular frame that resembles a computer window. The background is filled with various colorful geometric shapes and symbols, including circles, squares, triangles, and zig-zag lines in shades of blue, orange, and purple. A speech bubble is visible on the right side of the frame. The overall style is modern and playful, suggesting themes of technology, communication, or user interface design.

Ray Tomlinson, author of first email software, chooses @ sign for email addresses.

**1973**

Robert Metcalfe invents Ethernet which meant that multiple computers could connect to each other and communicate directly.

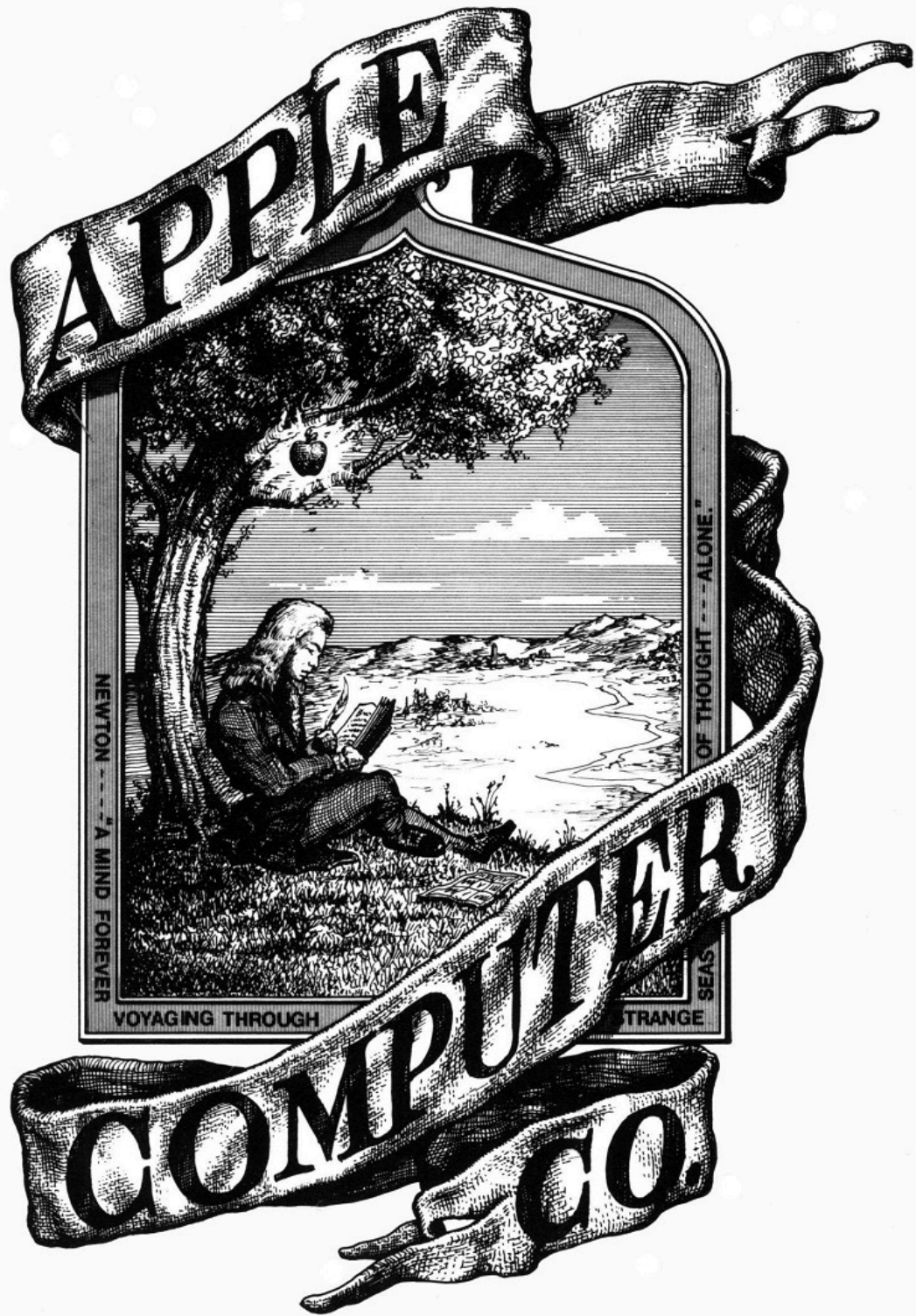
**1975**



Bill Gates and Paul Allen start a new company and named it Microsoft.

**1976**





Steve Wozniak and Steve Jobs start a company named Apple Computers.

## 1977

Apple Computers rolls out Apple II, which had color graphics and an audio cassette tape to store information.

## 1979

The first word processor was developed by MicroPro international.

Kevin MacKenzie invents the emoticon :-)

## 1980-1983



Apple, Microsoft, and IBM develop home computers for personal use that could be purchased and used by anyone. Think about it, personal computers are only 40 years old!

**1984**

The domain name system (DNS) is established for different web sites.

**1985**



CD-ROM technology (disk and drive) for computers developed by Sony and Philips



## 1990

Tim Berners-Lee develops HyperText Markup Language (HTML), the language used to write most modern webpages. This leads the way to creating the World Wide Web.

## 1996



Larry Page and Sergey Brin of Stanford University invent the Google search engine.

## 1997

Vic Hayes lays essential groundwork for what will become Wifi.

## 2004

Facebook, a social networking site, launches. Mozilla's Firefox 1.0 challenges Microsoft's Internet Explorer, the dominant Web browser.

## 2005

Google acquires Android, a Linux-based mobile phone operating system. YouTube, a video sharing service, is launched.

## 2006

Apple introduces the MacBook Pro, its first Intel-based, dual-core mobile computer.

**2007**



Apple introduces the iPhone. This led the way for phones to have many characteristics of computers. These "smartphones" led to the rise of widespread personal devices.

**2010**

Virtual Reality possibilities become more mainstream

**2011**

Google releases the Chromebook, a laptop that runs the Google Chrome OS.

**2015**

Apple releases the Apple Watch, a smartwatch.



2020



Apple releases the iPad Pro.

2030

What do YOU think will happen in the computer science world? How will technology affect different aspects of our lives? How will technology affect the following fields?

Music

Medicine

Conservation

Energy

Art

How do you think computational innovations will revolutionize aspects of our culture?

## Questions (1)

### 1. Did you read the material?

MULTIPLE CHOICE

Choose the correct answer:

- A. Yes
- B. No

---

# Answer Keys & Solutions

---

## Questions

---

1. Did you read the material?

MULTIPLE CHOICE

Correct Answer:

- |        |             |
|--------|-------------|
| A. Yes | ✓ Correct   |
| B. No  | ✗ Incorrect |