



COMP110: Principles of Computing

# 1: Computing History and Profession

**What was the first computer?**

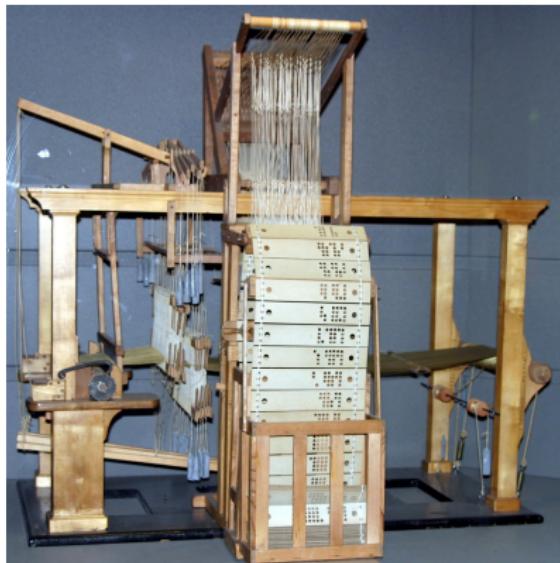
# Antikythera Mechanism (~150 BC)

First mechanical computer?



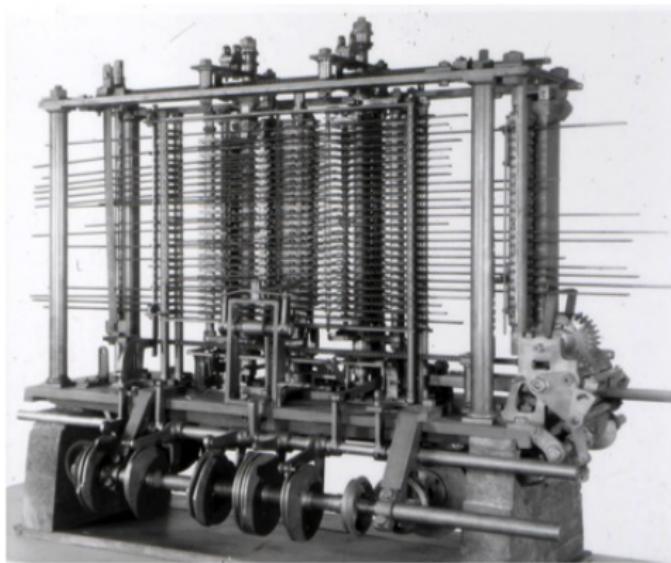
# Jacquard Loom (1804)

First programmable machine in modern age



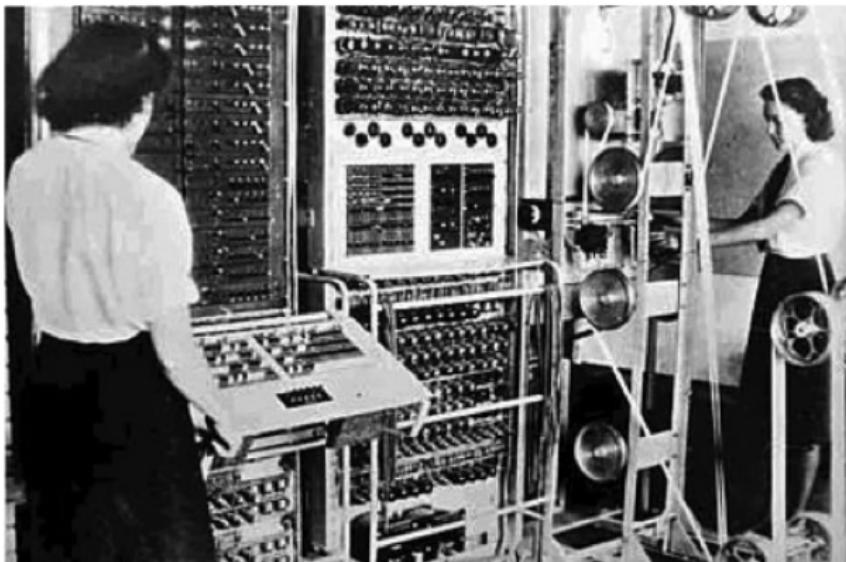
# Babbage's Difference and Analytical Engines (1837)

First mechanical computer in modern age



# Colossus (1943)

First programmable electronic computer



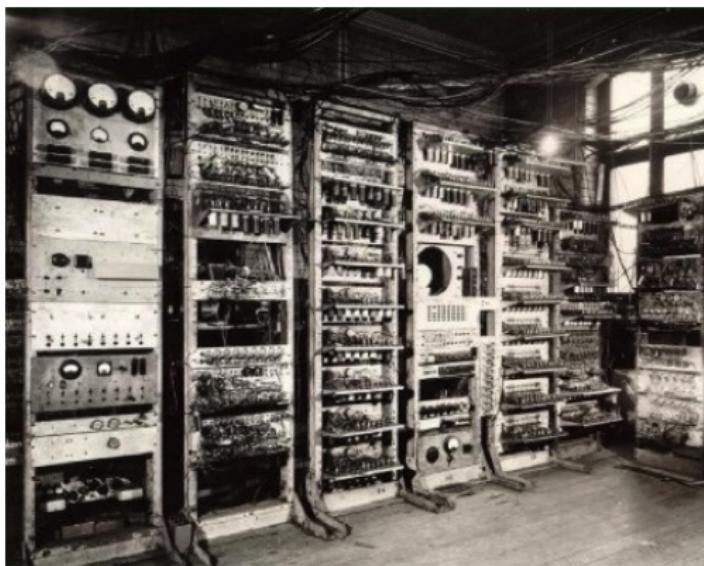
# ENIAC (1946)

First general-purpose computer



# Manchester Small-Scale Experimental Machine (1948)

First stored program computer



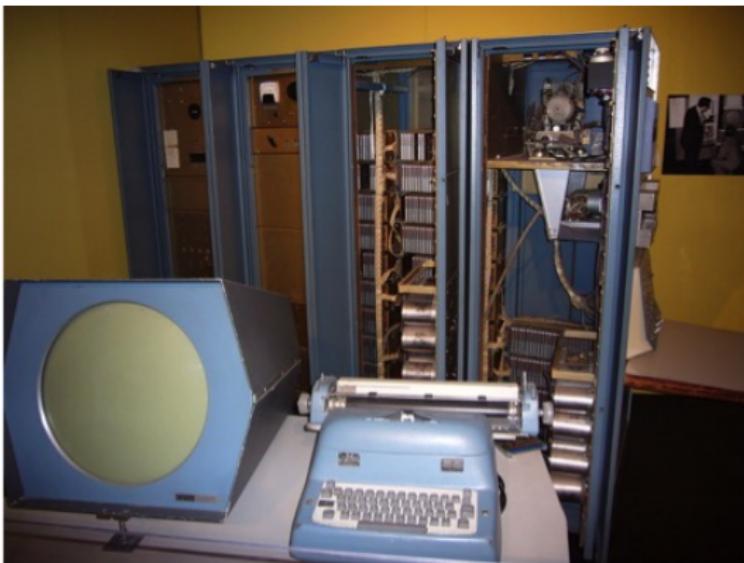
# TRADIC (1949)

First transistor computer



# PDP-1 (1959)

Influenced “hacker culture”



# Datapoint 2200 (1970)

First microcomputer



# Commodore VIC 20 (1980)

First computer to sell 1 million units



# IBM Personal Computer Model 5150 (1981)

Precursor to the modern PC

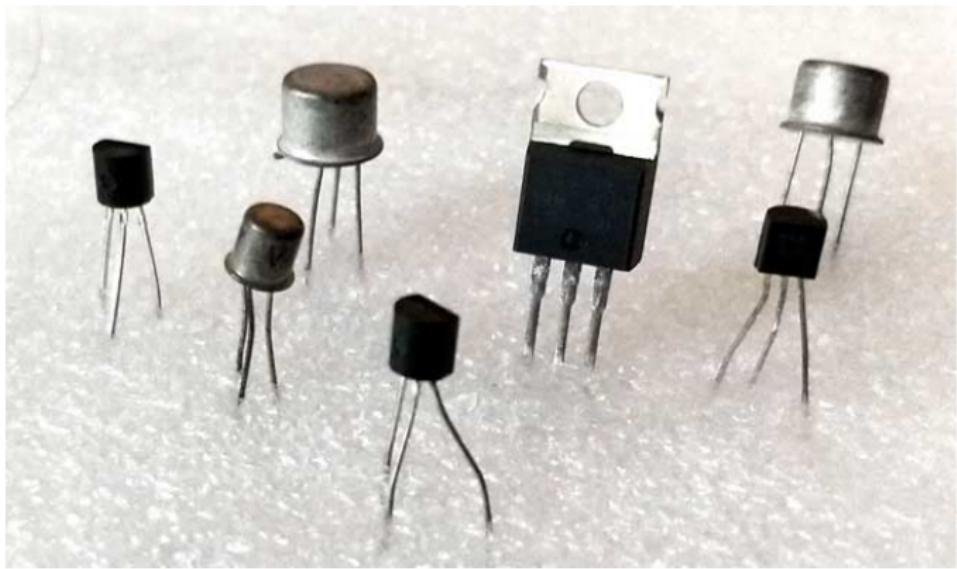


# **Electronic computer technologies**

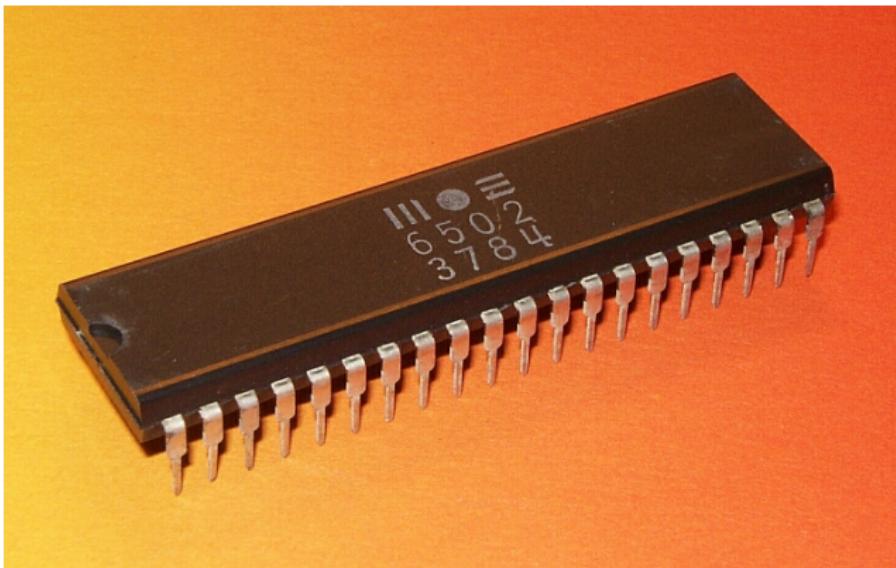
# Vacuum tubes (valves)



# Transistors



# Integrated circuits (ICs)



1943	Colossus	1700 valves
1946	ENIAC	20000 valves
1949	TRADIC	800 transistors
1959	PDP-1	2700 transistors
1975	MOS 6502	3510 transistors
1979	Intel 8088	29000 transistors
1998	Intel Pentium II	7.5 million transistors
2016	Intel Core i7 Broadwell-E	3.2 billion transistors
2020	Apple A14	11.8 billion transistors
2020	Nvidia GeForce RTX 3080	28 billion transistors



**What was the first computer game?**

# Cathode Ray Tube Amusement Device (1948)

First interactive electronic game



# Chess AI on the Ferranti Mark I (1951)

First chess program



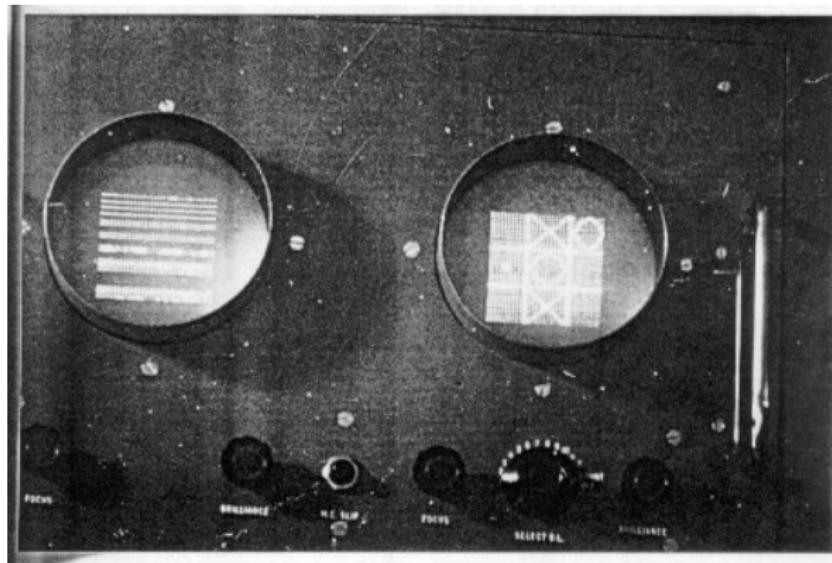
# Bertie the Brain (1950)

First computer game with a visual display



# OXO (1951)

First game with visuals on a general-purpose computer



# Tennis for Two (1959)

First to be created purely for entertainment



# SpaceWar! (1962)

First widely available game, inspired first arcade games



# Pong (1972)

First commercially successful game



**What was the first games console?**

# The Brown Box (1967)

First prototype console



Ralph H Baer

[TheGameConsole.com](http://TheGameConsole.com)

# Magnavox Odyssey (1972)

First commercial console



# **Computing professionals**

# Computing professionals

- ▶ A degree in computing prepares you for a wide variety of careers
- ▶ How many can you think of?
- ▶ What **skills** might you need to be successful in these careers?
- ▶ Discuss in breakout groups

# The future of computing

- ▶ Computing is a fast-moving field, and the world you graduate into may not look much like the world of today!
- ▶ How might the landscape of the computing profession change in the next 5–10 years?
- ▶ What careers will become more or less important, or disappear entirely?
- ▶ Will the important skills be the same or different?