

COMP110: Principles of Computing

1: Computing Foundations

Learning outcomes

By the end of today's session, you will be able to:

- ▶ **Describe** the overall structure of the module and its assessments
- ▶ **Recall** the historical context of computing and gaming technology
- ▶ **Explain** the basic architecture of a computer

Today's agenda

- ▶ COMP110 course outline
- ▶ History of computing

Module introduction

Module introduction slides

On LearningSpace

Topic schedule

On LearningSpace

Timetable

<http://mytimetable.falmouth.ac.uk>

Assignments

- ▶ Assignment 1: worksheet tasks
 - ▶ **Five** worksheets — programming and annotation tasks
 - ▶ **Five** exercise sheets — mathematics practice
- ▶ Assignment 2: research journal
- ▶ See LearningSpace for assignment briefs, worksheets, quizzes
- ▶ See MyFalmouth for deadlines

Worksheet A

- ▶ SpaceChem
- ▶ Quiz: Pythagoras' Theorem
- ▶ Due in **next week's workshop**

What was the first computer?

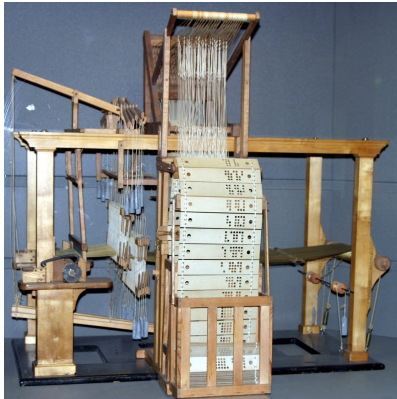
Antikythera Mechanism (~150 BC)

First mechanical computer?



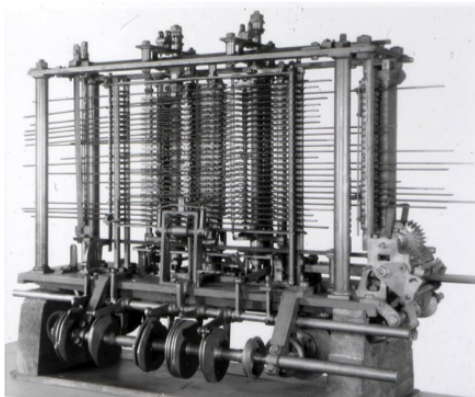
Jacquard Loom (1804)

First programmable machine in modern age



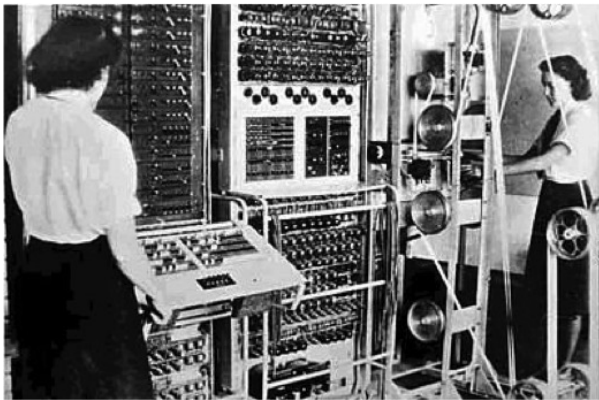
Babbage's Difference and Analytical Engines (1837)

First mechanical computer in modern age



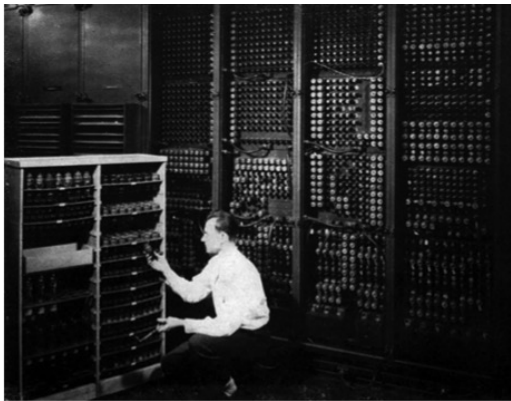
Colossus (1943)

First programmable electronic computer



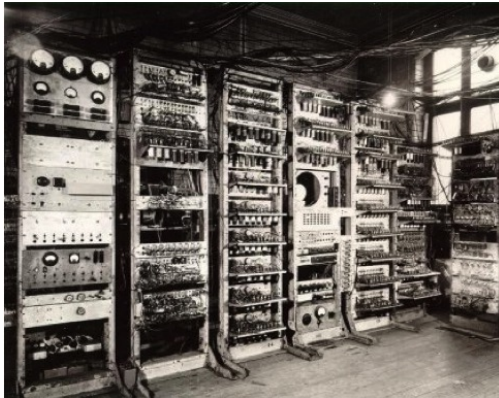
ENIAC (1946)

First general-purpose computer



Manchester Small-Scale Experimental Machine (1948)

First stored program computer



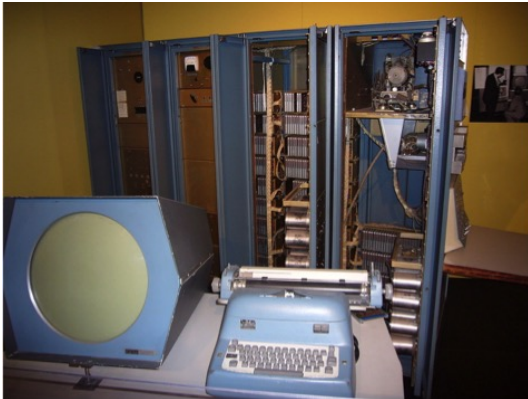
TRADIC (1949)

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



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
2018	Apple A12	6.9 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



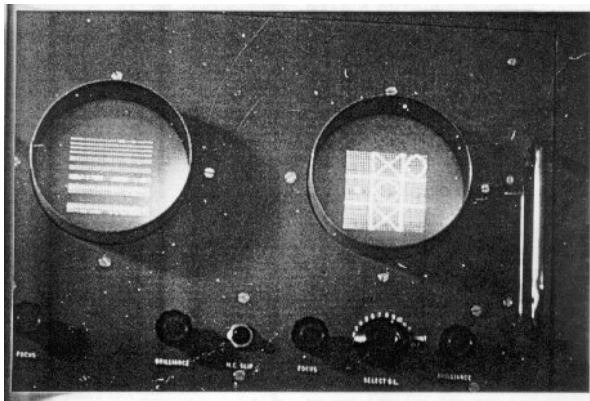
Bertie the Brain (1950)

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



Magnavox Odyssey (1972)

First commercial console



Game console timeline

[http://www.onlineeducation.net/videogame_
timeline/video-game-timeline.jpg](http://www.onlineeducation.net/videogame_timeline/video-game-timeline.jpg)
(A little out of date!)

Debrief

You should now be able to:

- ▶ **Describe** the overall structure of the module and its assessments
- ▶ **Recall** the historical context of computing and gaming technology
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Remember: Worksheet A is due **next week!**