

Intro to Computers

Alan Turing – Father of modern Computer Science.

-His Turing machine provided the first characterization of algorithms and computation. He was a mathematician developed the idea of the modern computer and artificial intelligence. He played a key role in World War II cracking the Enigma.

Charles Babbage – English Mathematician (Born 1791) Mathematician and Philosopher

-Invented the first mechanical computer

-Setup the astronomical society

-Father of the computer; combined Jacquard's punch card system with and Leibniz's calculator to design the first computing machine. The Analytical Engine

Ada Lovelace – English Mathematician and writer (Contemporary of Babbage)

Imagined the first computer programs. Known as the first programmer.

A programming language today exists called "Ada"

Jon von Neumann – Hungarian-American mathematician, physicist, computer scientist

Contribution to comp sci: Described the shared memory architecture (RAM and ROM)

Blaise Pascal – French mathematician, Jansenist theologian, Physicist, Philosopher

Contribution to comp sci: First digital calculator, forming the basis for the accumulator, a critical circuit.

Referenced the concept of a "God-shaped hole" – a longing and desire for something infinite and immutable; God.

-Has a programming language named after him

Gottfried Wilhelm Leibniz – German polymath, particularly symbolic logic. Philosopher, Lawyer, Inventor

Contribution to comp sci: Innovated on Pascal's calculator to include all four primary operations. Also responsible for differential calculus.

Charles Xavier Thomas de Colmar – French businessman, inventor and entrepreneur

Contribution to comp sci: Patented the Arithmemetre in 1820. The first commercially successful mechanical calculator. Based on Leibniz's design, it was still being used through World War I.

Joseph Marie Jacquard – 18th century French master weaver

- Primary motivation was to reduce the cost of weaving patterned fabrics

- Contribution to comp sci: Adapted other contemporary inventions to create a peripheral input device, allowing reliable repetition of a given pattern. First programmable loom.

Max Newman – British mathematician and codebreaker

Contribution to comp sci: Wrote the specifications for the Colossus World War II code breaking.

Betty Holberton

Contribution to Comp Sci: One of the first modern programmers. Worked most of her career to make the art of programming human friendly. Involved with the ENIAC, UNIVAC, and COBOL projects.

Dorothy Vaughn

African American mathematician and human computer who worked for National Advisory Committee for Aeronautics.

Grace Hopper

- First woman to receive a PH.D in math. Helped create the first compiler for computer languages.

- Joined the Naval Reserve in World War II

Seymour Cray – American Electrical Engineer

- Invented the CRAY-1 Supercomputer, the first such machine, and first to be built with integrated circuit technology.

-Fastest computers in the world for decades

Bill Gates – Founder of Microsoft

“Ultimately, the PC will be a window to everything people are interest in-and everything we need to know” – Bill Gates

-Wrote his first program at the age of 13.

-dropped out of college to focus on Microsoft

Steve Jobs – Founder of Apple

“Design is not just what it looks and feels like. Design is how it works.” –Steve Jobs

Apple is designed for simplicity, and their focus has been user-friendly tech.

-also dropped out of college

Common themes:

-Mathematician

-Philosophy – The process of thinking and mathematics presented the possibility of electronic thinking (computing)

-Discovered during war time

-More men than women (women weren't offered the same levels of education)

Created from others:

Alan Turing -> Von Neumann

Charles Babbage -> Ada Lovelace (wrote notes 4 times as long)