Alan Turing

Alan Turing (1912 - 1954)

Who was Alan Turing?

- He was an English mathematician and computer scientist
- His code-breaking machine helped win The Second World War
- He designed one of the world's first ever electronic computers

Important Figures in Computing History

Why is Alan Turing important?

- He came up with the idea for a machine that could be programmed to follow instructions stored in memory, he later designed the first electronic computer
- He was responsible for developing a machine that could crack the Nazi's secret messages (Enigma code) during World War II which helped the Allied Forces defeat Germany in 1945

A young Alan

His early years

- Born 23rd June 1912
- The son civil servants based in India
- Became interested in Science and Maths at Sherborne School, aged 13
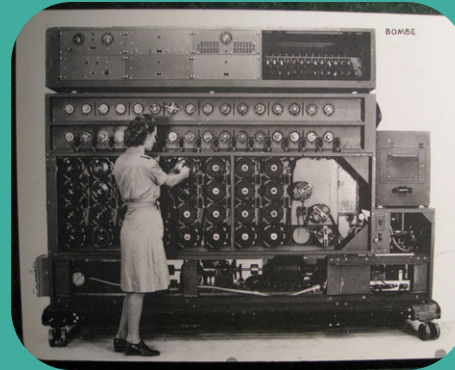- He was a talented long-distance runner and won several

Important Figures in Computing History

What came next?

- He attended Cambridge University in 1931
- Elected a Fellow of Cambridge in 1934
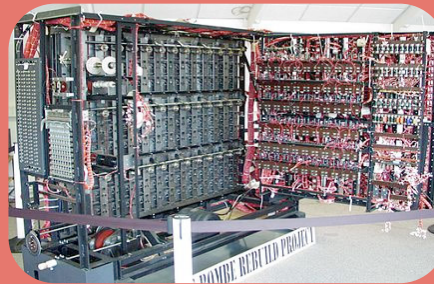- He studied Mathematics and Cryptology at Princeton, USA

The Enigma Machine

US Naval 'Bombe'

- Joined the British Codebreaking Centre, Bletchley Park in 1938
- Received an OBE for Wartime Services by King George VI in 1945
- Died in 1954

Important Figures in Computing History

Alan Turing – Codes & Computers

- In 1936 he introduced the idea of a 'universal machine' - later called the Turing Machine – a machine that can perform any specified task by being given a program for it
- 1939-1940 he developed The Bombe, a machine that could crack German coded messages sent during the war

Replica of 'The Bombe'
National Code Centre Bletchley Park

- 1939-1942, worked on cracking the more difficult German Naval Enigma code and helped save the battle of the Atlantic
- 1946 he produced a detailed design of the Automated Computing Engine (ACE) – a computer that stored programs
- He designed a test in 1950 for knowing whether a computer can be said to 'think'
- His Turing Test is still used today to test for artificial intelligence in machines
- His design for one of the world's first electronic computers and his test for artificial intelligence in computers means that he is known as the founder of computer science