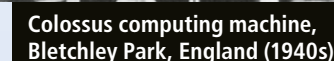


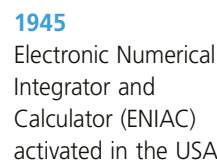
Computing and civilisation

The earliest modern computing machines were entirely mechanical, using wheels, gears, handles and so on, to perform computational tasks. The first such machine was designed by Charles Babbage in the 1830s but never constructed. Development of such machines was relatively slow, but pioneers began to create a variety of mechanical computational devices such as cash registers.

The first giant electronic computers, appropriately named Colossus I and Colossus II, came into use in December 1943 and June 1944, based on 1,500 and 2,400 fragile vacuum valves respectively, which could be damaged by – among other things – insects, hence the term ‘computer bug.’ Programmers had to physically rewire them by plugging and unplugging electric wires. Data was fed in by means of holes punched in paper strips. The US equivalent, ENIAC weighed 30 tonnes, contained 18,000 vacuum tubes, and was capable of 5,000 basic calculations a second. It was used in atomic weapon and rocket research.



Futurologists claim computers will be able to think and even that evolution will leap from the human body to the intelligent computer processor, putting an end to the Anthropocene period of human pre-eminence on the planet.



1958
First semiconductors
(silicon chips)
devised

1971 First email sent. A simple table tennis simulator, Pong, becomes the first commercially successful computer game

1979 MicroPro Wordstar released and becomes the first commercially successful word processing programme

1984
Apple pioneers multiple windows, drop-down menus and the mouse in its first Macintosh computers

1993
Pentium processor expands use of graphics and music on PCs

1999
First wireless (Wi-Fi) network introduced, which has a range of about 100 metres

2017
First steps in producing a viable molecular-based computing system announced by US Defence Advanced Research Projects Agency (DARPA)