

5.1_C1



Faculty:
Computing

Lecture: Faster processors and their effect on computing

This lecture will consider the major developments in the power of processors and their effects on computing. In 1965, Moore's law predicted that every two years manufacturers would develop processors with double the number of transistors at half the cost. This predicted rate of development continued over many decades. To make this possible, the **design** of computer processors has become more **complex**. These developments in processor architecture have depended on tools which have smaller and smaller _____. At each _____ of development, the components have become smaller and smaller, and the ability of processors to _____, _____ and _____ data have continued to grow. More recently, there have been many warnings that it is not possible to **create** smaller components. However, the processor designs are now so sophisticated that designers need a deep **knowledge** of the way in which electrons interact at an atomic level. This lecture will explore the different ways in which the power of processors has increased over time and what the effects of this have been on computing. It will consider whether Moore's law has finally reached its limit and how this can help our understanding of the future growth of computer power.

5.1_C1 Answers



Faculty:
Computing

Lecture: Faster processors and their effect on computing

This lecture will consider the major developments in the power of processors and their effects on computing. In 1965, Moore's law predicted that every two years manufacturers would develop processors with double the number of transistors at half the cost. This predicted rate of development continued over many decades. To make this possible, the **design** of computer processors has become more **complex**. These developments in processor architecture have depended on tools which have smaller and smaller tolerances. At each stage of development, the components have become smaller and smaller, and the ability of processors to calculate, store and convert data have continued to grow. More recently, there have been many warnings that it is not possible to **create** smaller components. However, the processor designs are now so sophisticated that designers need a deep **knowledge** of the way in which electrons interact at an atomic level. This lecture will explore the different ways in which the power of processors has increased over time and what the effects of this have been on computing. It will consider whether Moore's law has finally reached its limit and how this can help our understanding of the future growth of computer power.