AQA Computer Science GCSE

3.3.1 Number Bases

Flashcards

What is a number base?

What is a number base?

A system that defines how numbers are represented using digits.

What number base do humans use every day?

What number base do humans use every day?

Decimal (Base 10)

What number base do computers use?

What number base do computers use?

Binary (Base 2)

What number base is often used by programmers?

What number base is often used by programmers?

Hexadecimal (Base 16)

What digits are used in base 10?

What digits are used in base 10?

0–9

What digits are used in base 2?

What digits are used in base 2?

0 and 1

What digits are used in base 16?

What digits are used in base 16?

0–9 and A–F (A=10 to F=15)

Why is hexadecimal used in computing?

Why is hexadecimal used in computing?

It is more compact and easier for humans to read and work with than binary.

True or false: Hexadecimal is faster for a computer to process than binary.

True or false: Hexadecimal is faster for a computer to process than binary.

False. Computers always represent information using binary, so hexadecimal doesn't offer any advantage to computers.

How many bits does one hexadecimal digit represent?

How many bits does one hexadecimal digit represent?

4 bits

What can a binary bit pattern represent?

What can a binary bit pattern represent?

Numbers, characters, pixels (images), or sound samples.

Does binary always represent numbers?

Does binary always represent numbers?

No - it can represent any type of data, depending on how it is interpreted by the program.

How do computers store all data and instructions?

How do computers store all data and instructions?

Using binary (0s and 1s)