AQA Computer Science GCSE 3.2.6 Data Structures

Flashcards

What is a data structure?

What is a data structure?

A way of organising and storing data so it can be used efficiently in a program.

What is an array?

What is an array?

A collection of data items (elements) stored under a single name, accessed by index (numerical position).

What kind of data can an array hold?

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Elements of the same data type (e.g. all integers or all strings)

What is a one-dimensional (1D) array?

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A single list of elements.

Example: scores = [10, 20, 30]

What is the index of the first element in an array (in most languages)?

What is the index of the first element in an array (in most languages)?

Index 0

What is a two-dimensional (2D) array?

What is a two-dimensional (2D) array?

An array of arrays—like a grid or table.

What is a record?

What is a record?

A data structure that groups related but different types of data.

Can records hold multiple data types?

Can records hold multiple data types?

Yes, each field can have its own type (e.g. string, real, integer).

Give an example of a record field.

Give an example of a record field.

In a Car record:

price : Real, make : String

What is the key difference between arrays and records?

What is the key difference between arrays and records?

Arrays store similar items; records store related items of different types.

When would you use an array instead of a record?

When would you use an array instead of a record?

When you need to store and process a list of items that are all the same type.

When would you use a record?

When would you use a record?

When you need to group different properties of a single item (e.g. a person's name, age, and email).