AQA Computer Science GCSE
3.1.1 Representing Algorithms

Flashcards

What is an algorithm?

What is an algorithm?

A sequence of steps that can be followed to complete a task.

How is a computer program different from an algorithm?

How is a computer program different from an algorithm?

A program is an implementation of an algorithm using a programming language.

What is decomposition?

What is decomposition?

Breaking a problem into smaller sub-problems, each achieving a specific task.

What is abstraction?

What is abstraction?

Removing unnecessary details to focus on what's important in solving a problem.

What are three common ways to represent algorithms?

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Pseudocode, program code, and flowcharts.

What should you always do in an exam question about algorithms?

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Use the required format (e.g. pseudocode, code, or a flowchart) specified in the question.

What are the three stages to explain in an algorithm?

What are the three stages to explain in an algorithm?

Inputs, processing, and outputs.

Describe the purpose of this algorithm in relation to the three stages of an algorithm.

```
num1 = input("Enter a number")
num2 = input("Enter a number")
num3 = num1 * num2
print(num3)
```

Describe the purpose of this algorithm in relation to the three stages of an algorithm.

num1 = input("Enter a number") → input a number
num2 = input("Enter a number") → input a second number
num3 = num1 * num2 → calculate the product (processing)
print(num3) → output the result

Purpose of algorithm is to print the product of two numbers.

How can you determine the purpose of a simple algorithm?

How can you determine the purpose of a simple algorithm?

By using trace tables or visually inspecting the algorithm.

What is a trace table?

What is a trace table?

A tool to track the values of variables step by step as an algorithm runs.

Why is understanding algorithm representation important?

Why is understanding algorithm representation important?

It helps in designing, explaining, testing, and debugging computational solutions.