Your notes

GCSE Computer Science: revision notes

Pseudocode and flowcharts

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Pseudocode

- **Pseudocode** is a way of writing an algorithm that looks like code but is not a real programming language. It lets you plan without worrying about exact syntax.
- Exam boards use their own styles: AQA has its own **pseudocode**, OCR uses its Exam Reference Language, and Edexcel uses Python. You can usually answer in **pseudocode** or in a high-level language such as Python, as long as your steps are clear.

Flowchart symbols

- **Terminal** (rounded rectangle): start and stop. **Input/output** (parallelogram). **Process** (rectangle): an action or calculation.
- **Decision** (diamond): a question with two exits, Yes and No. Subroutine (rectangle with double lines at the sides): a call to another part of the program.
- Arrows (flow lines) show the order. An arrow going back to an earlier step makes a loop.

Reading an algorithm

- Work through it one step at a time and keep track of every variable, for example in a trace table.
- An algorithm sets count to 0. While count is less than 3, it outputs count and adds 1. It outputs 0, 1 and 2, then stops because count is 3.

Writing clear algorithms

- Use meaningful variable names, indent the code inside loops and IF statements, and add comments to explain tricky parts.

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Key terms

Pseudocode	A way of writing an algorithm that looks like code but isn't a real programming language.
Flowchart	A diagram that shows the steps of an algorithm using standard symbols.
Terminal	The rounded rectangle that shows the start or end of a flowchart.
Process	The rectangle used for an action or calculation.
Decision	The diamond used for a question with Yes and No exits.
Input/output	The parallelogram used when data goes in or comes out.

Quick questions

Cover the answers and test yourself: remembering is what makes it stick.

1. Which flowchart symbol is used for a decision?
2. Which flowchart symbol is used for input and output?
3. Which flowchart symbol shows the start or the end?
4. Which flowchart symbol is used for a process, such as a calculation?
5. What is pseudocode?
6. Why do programmers use pseudocode?
7. How many exits does a decision symbol usually have?
8. An algorithm sets count to 0. While count is less than 3, it outputs count and then adds 1 to count. What is output?

Answers

1. A diamond
2. A parallelogram
3. A rounded rectangle (terminal)
4. A rectangle
5. A way of writing algorithms that looks like code but isn't a real language
6. To plan an algorithm without worrying about exact syntax
7. Two (Yes and No)
8. 0, 1, 2

What to do next

Practise 18 questions on this topic

Try 5 exam questions, with mark schemes

Read the lesson, one step at a time

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