

Week 22

IGCSE Computer Science

Homework bundle for this week

本周作业合集

[exercises.lol](#)

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IGCSE Computer Science

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1. Abstraction means:

- ☐ keeping only the important details and ignoring the rest
- ☐ breaking a problem into smaller parts
- ☐ writing in binary
- ☐ testing with extreme data

2. Checking that an age is between 0 and 120 is a:

- ☐ range check
- ☐ presence check
- ☐ format check
- ☐ double entry

3. A linear search finds a value by:

- ☐ checking each item in turn from the start
- ☐ halving the list each time
- ☐ sorting the list first
- ☐ swapping pairs

4. Pseudocode is:

- ☐ steps written in simple, code-like English (not a real language)
- ☐ machine code
- ☐ a flowchart
- ☐ a programming language that runs directly

5. Validation checks that data is sensible (in range, right type, not blank), while verification checks it was copied or entered correctly (e.g. double entry).

- ☐ True ☐ False

6. A bubble sort puts a list in order by:

- ☐ comparing side-by-side pairs and swapping any that are out of order, repeatedly
- ☐ checking each item once
- ☐ dividing the list in two
- ☐ building a binary tree

7. Using totalling on the list [2, 4, 6, 8], what is the final total?

8. Trace 'total = 0; FOR i = 1 TO 5: total = total + i'. What is total at the end?

9. Every algorithm can be decomposed into:

- ☐ input, processing and output
- ☐ header, payload and trailer
- ☐ analysis, design and testing
- ☐ sensor, microprocessor and actuator

10. Entering data twice and comparing the two copies is:

- ☐ double entry (a verification method)
- ☐ a range check
- ☐ a check digit
- ☐ abstraction

1. keeping only the important details and ignoring the rest

Abstraction simplifies; decomposition breaks a problem into parts.

2. range check

A range check confirms a value lies within allowed limits.

3. checking each item in turn from the start

Linear search examines items one by one until it finds the value or reaches the end.

4. steps written in simple, code-like English (not a real language)

Pseudocode describes an algorithm in readable, code-like English without being a real language.

5. True

Validation = "is it sensible?"; verification = "was it entered/copied correctly?" — you usually want both.

6. comparing side-by-side pairs and swapping any that are out of order, repeatedly

It swaps out-of-order neighbours and repeats passes until no swaps are needed.

7. 20

$2 + 4 + 6 + 8 = 20$.

8. 15

$1+2+3+4+5 = 15$ — the value the trace table builds up row by row.

9. input, processing and output

Input (data in) → processing (the work) → output (the result).

10. double entry (a verification method)

Double entry is a verification method — the two copies must match.