1. Abstraction means:

   ☐ testing the program with extreme and boundary data

   ☐ keeping only the important details and ignoring the rest

   ☐ breaking a problem into smaller, more manageable parts

   ☐ writing the solution in binary so the computer can run it

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

   ☐ format check

   ☐ presence check

   ☐ double entry

   ☐ range check

3. A linear search finds a value by:

   ☐ halving the list each time and checking the middle item

   ☐ sorting the list first and then reading the first item

   ☐ checking each item in turn from the start

   ☐ swapping pairs of items until the value moves to the front

4. Pseudocode is:

   ☐ a flowchart that uses shapes to show each step

   ☐ machine code written as binary instructions for the CPU

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

   ☐ a programming language that runs directly on a computer

5. Double entry of data is a validation check.

   ☐ True ☐ False

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

   ☐ checking each item once and placing it straight into its final position

   ☐ building a binary tree and reading the values back out in order

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

   ☐ dividing the list into two halves and merging them back in order

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☐ True ☐ False

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

   _____

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

   _____

10. Typing a new password twice is a validation check.

    ☐ True ☐ False

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. **False**

   False. Double entry is a verification check: it confirms data was entered correctly. Validation checks that data is sensible, such as a range or type check.

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. **True**

   Processes are rectangles, input and output are parallelograms, and decisions are diamonds.

8. **15**

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

9. **20**

   2 + 4 + 6 + 8 = 20.

10. **False**

    Double entry is verification: it checks the data was copied correctly, not that it is sensible.

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