ENGLAND GCSE COMPUTER SCIENCE AQA · UNIT 1 · 10 QUESTIONS

Fundamentals of Algorithms — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A smartphone app breaks a journey into smaller steps to plan a route. What is this called?**

- A Decomposition
- B Pattern recognition
- C Compression of the route data
- D Abstraction

Understand It with Pulse | Flag a mistake

2 **A laptop uses an algorithm to add up the prices in a shopping list. What is an algorithm?**

- A A program written in a high level language
- B A set of steps to solve a problem
- C A type of computer hardware that stores data
- D A way of compressing a file to make it smaller

Understand It with Pulse | Flag a mistake

3 **A merge sort splits a list of 8 items in half again and again until each list has one item. How many lists of one item are there?**

- A 3
- B 8
- C 80
- D 4

Understand It with Pulse | Flag a mistake

4 **A binary search checks a sorted list of 32 items. After one check, at most how many items can still need checking?**

- A 8
- B 32
- C 16
- D 320

Understand It with Pulse | Flag a mistake

5 **A program sets total to 0, then adds each number in the list 9, 1, 1, 1 in turn. What is the value of total at the end?**

- A 120
- B 13
- C 12
- D 11

Understand It with Pulse | Flag a mistake

6 **What is an advantage of a linear search?**

- A It works on a list that is not sorted
- B It is always faster than a binary search
- C It sorts the list as it searches through it
- D It only ever checks one item in the list

Understand It with Pulse | Flag a mistake

7 **A binary search checks a sorted list of 32 items. After two checks, at most how many items can still need checking?**

- A 16
- B 8
- C 320
- D 4

Understand It with Pulse | Flag a mistake

8 **A bubble sort makes its first pass over the list 1, 3, 2, 4, comparing each pair of neighbours and swapping them if they are in the wrong order. How many swaps are made in this pass?**

- A 2
- B 1
- C 0
- D 10

Understand It with Pulse | Flag a mistake

9 **In an insertion sort, where is each new item placed?**

- A At the end of the list every time
- B In the correct place among the items already sorted
- C In a random place in the list
- D At the start of the list every time, in some situations

Understand It with Pulse | Flag a mistake

10 **A program counts how many numbers in the list 4, 12, 2, 14, 68 are greater than 10. What is the count at the end?**

- A 2
- B 3
- C 4
- D 40

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. A
2. B
3. B
4. C
5. C
6. A
7. B
8. B
9. B
10. B

© 2026 Brett Robbins. All Rights Reserved.