

1. What does a linear search do?

- ☐ A Looks at the first item of data, then each one in turn, until it finds the data item requested
- ☐ B Organises the data into alphabetical order
- ☐ C Splits the data until the requested data is found

2. What is an advantage of a linear search?

- ☐ A It is very quick
- ☐ B It only works with ordered lists
- ☐ C It is a simple algorithm

3. What does a binary search do?

- ☐ A Looks at the first item of data, then each one in turn, until it finds the data item requested
- ☐ B Converts all the data into binary
- ☐ C Takes the data and splits it in half repeatedly until it finds the data item requested

4. Which search algorithm would be best to use with ordered data?

- ☐ A A binary search
- ☐ B Either binary search or a linear search
- ☐ C A linear search

5. What is an advantage of a binary search

- | | | | |
|----------------------------|--------------------------|----------------------------|----------------------------------|
| <input type="checkbox"/> A | It's very quick | <input type="checkbox"/> B | It only works with ordered lists |
| <input type="checkbox"/> C | It is a simple algorithm | | |

6. What is the biggest disadvantage of a binary search?

- | | | | |
|----------------------------|-------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------|
| <input type="checkbox"/> A | It is slow | <input type="checkbox"/> B | It can only be used if the data is sorted into an order |
| <input type="checkbox"/> C | It takes the data and keeps dividing it in half until it finds the item it is looking for | | |

7. What does a sorting algorithm do?

- | | | | |
|----------------------------|----------------------------------------|----------------------------|---------------------|
| <input type="checkbox"/> A | Finds an item of data in a set of data | <input type="checkbox"/> B | Saves a set of data |
| <input type="checkbox"/> C | Puts a list of items into order | | |

8. What does a bubble sort do?

- | | | | |
|----------------------------|-----------------------------------------------------------------------------------------|----------------------------|------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> A | Sorts a list by comparing two items that are side by side, to see which is out of order | <input type="checkbox"/> B | Separates a list of data into different collections of data, before sorting and gathering back into a list |
| <input type="checkbox"/> C | Finds an item of data in a list | | |

9. How many passes will a bubble sort go through?

- | | | | |
|----------------------------|-------------------------------------------------|----------------------------|------------|
| <input type="checkbox"/> A | Only one pass | <input type="checkbox"/> B | Two passes |
| <input type="checkbox"/> C | Several passe - until the data is fully ordered | | |

10. Which sorting algorithm may make multiple swaps per pass?

☐ A Bubble Sort

☐ B Selection Sort

☐ C Insertion Sort

11. Using a binary search why will the number 9 never be found in the following list:

11, 8, 13, 9, 7, 3

☐ A It does not work on numbers ☐ B It only works on letters

☐ C The list is not in order

12. How many searches will it take to find 10 in [1,3,5,7,10,12,15] using **BINARY** search?

☐ A 3

☐ B 4

☐ C 5

☐ D 6

13. Why do we use BUBBLE SORT?

☐ A To place items in ORDER

☐ B To SEARCH for values in a list

14. Which algorithm uses a divide and conquer approach?

☐ A Linear Search

☐ B Binary Search

15. What is an algorithm?

☐ A When a task or problem is broken down to make it easier to solve.

☐ B When unnecessary detail is removed from a problem to make it easier to solve.

☐ C When patterns are identified to make a problem easier to solve.

☐ D When a step-by-step set of instructions are developed to form a solution to a problem.

16. Which of these is NOT a **search** algorithm

☐ A Binary

☐ B Linear

☐ C Bubble

Answer Key

1. a

2. c

3. c

4. a

5. a

6. b

7. c

8. a

9. c

10. a

11. c

12. a

13. a

14. b

15. d

16. c