

### MCQS ANSWERS

#### Lessons 1,2

Question 1: Identify the search algorithm (1-2)	✓
Random search	
Binary search	✓
Denary search	
Next Item search	
Question 2: Identify the description of a linear search (4-5)	✓
Put the elements in order, check each item in turn	
Put the elements in order, compare to the middle value, split the list in order and repeat	
Elements do not need to be in order, check each item in turn	✓
Elements do not need to be in order, compare to the middle value, split the list in order and repeat	
Question 3: Identify the description of a binary search (4-5)	✓
Put the elements in order, check each item in turn	
Put the elements in order, compare to the middle value, split the list in order and repeat	✓
Elements do not need to be in order, check each item in turn	
Elements do not need to be in order, compare to the middle value, split the list in order and repeat	
Question 4: Define the term computational thinking (1-2)	✓
Using a computer	
Developing an algorithm to solve a problem	✓
Making a computer use artificial intelligence	
Google is computational thinking	
Question 5: Which of the following is not a component of computational thinking? (1-2)	✓
Abstraction	
Typing	✓
Decomposition	
Algorithmic thinking	
Question 6: Define the term abstraction within computational thinking (4-5)	✓
Adding together numbers	
Taking a real world problem and designing a computer program that exactly replicates every part of that problem in the computer	
Performing multiple calculations on a list of variables	
Representing real world problems in a computer program, using symbols and removing unnecessary elements	✓
Question 7: Define the term decomposition within computational thinking (1-2)	✓
The breaking down of a program until it no longer exists	
The creation of music that can be played on a computer	
The breaking down of a problem into smaller problems	✓
The breaking down of waste to make compost	

Question 8: Identify which statement describes algorithmic thinking (1-2)		✓
Thinking like a computer		
Writing binary numbers		
Identifying the steps involved in solving a problem		✓
Identifying what problems need to be solved		
Question 9: A linear search is to be performed on the list:		
12   6   8   1   3		✓
How many comparisons would it take to find the number 1? (6-9)		
1		
2		
3		
4		✓
Question 10: A binary search is to be performed on the list:		
3   5   9   10   23		✓
How many comparisons would it take to find the number 9? (4-5)		
0-1		✓
2-3		
4-5		
It can't find the number 9		
Question 11: A binary search is to be performed on the list:		
1   5   10   13   48   68   100   101		✓
How many comparisons would it take to find the number 101? (4-5)		
0-1		
1-2		
3-4		✓
4-5		
Question 12: Identify the search performed by the following algorithm: (9)		
for x = 0 to 9 if (array[x]==10) then print("Found it") endif next x		
Linear		✓
Binary		
Both linear and binary		
Neither, it does not work		

### MCQS ANSWERS

#### Lessons 3, 4 and 5

Question 1: Which of the following is <b>not</b> a sorting algorithm? (1-2)		✓				
Bubble						
Insertion						
Binary		✓				
Merge						
Question 2: Which sorting algorithm is described by: moving through a list repeatedly, swapping elements that are in the wrong order. (1-2)		✓				
Merge						
Bubble		✓				
Insertion						
None of the above						
Question 3: Which sorting algorithm is described by: split a list into individual lists, then combine these, two lists at a time. (1-2)		✓				
Merge		✓				
Bubble						
Insertion						
None of the above						
Question 4: Which sorting algorithm is described by: take each item in turn, compare it to the items in the sorted list and place it in the ordered position in the sorted list. (1-2)		✓				
Merge						
Bubble						
Insertion		✓				
None of the above						
Question 5: What is the first action in an insertion sort? (4-5)		✓				
Make a new list						
Mark the first item as the ordered list		✓				
Compare the first and second elements						
Put the first element in the correct place						
Question 6: The following two lists are to be merged, which element first goes into the new merged list (4-5)						
List 1:						
<table><tr><td>2</td><td>4</td><td>8</td><td>9</td></tr></table>		2	4	8	9	✓
2	4	8	9			
List 2:						
<table><tr><td>1</td><td>6</td><td>8</td><td>4</td></tr></table>		1	6	8	4	
1	6	8	4			
0						
1		✓				
2						
3						

Question 7: The following list is to be sorted using a bubble sort:

12	6	8	1	3
----	---	---	---	---

✓

What will the list look like after the first iteration through the list. (9)

6	8	1	3	12
---	---	---	---	----

✓

6	12	1	8	3
---	----	---	---	---

1	3	6	8	12
---	---	---	---	----

6	8	1	12	3
---	---	---	----	---

Question 8: Which sorting algorithm needs to go through the list repeatedly? (4-5)

✓

Merge

Bubble

✓

Insertion

None of them do

Question 9: Which sorting algorithm splits a list of items into individual lists. (1-2)

✓

Merge

✓

Bubble

Insertion

None of them do

Question 10: Which sorting algorithm takes an item from the list, and puts it in the correct place in a sorted list? (4-5)

✓

Merge

Bubble





Insertion

✓

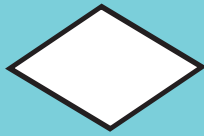
None of them do

## MCQS ANSWERS

### Lessons 6 and 7

Question 1: Identify the correct definition for 'algorithm'. (1-2)		✓
A problem		
A solution to a problem		
The steps that are taken to solve a problem		✓
The words to enter when typing		
Question 2: Identify the purpose of the following flowchart symbol: (1-2)		
		✓
Input/Output		
Output		
Start/Stop		✓
Decision		
Question 3: Identify the purpose of the following flowchart symbol: (1-2)		
		✓
Input/Output		✓
Sub-process		
Process		
Decision		
Question 4: Define the term computational thinking (1-2)		
		✓
Input/Output		
Sub-process		✓
Process		
Decision		
Question 5: Which of the following is not a component of computational thinking? (1-2)		
		✓
Process		✓
Input/Output		
Sub-process		
Decision		

Question 6: Identify the purpose of the following flowchart symbol: (1-2)



✓

Process	
Input/Output	
Sub-process	
Decision	✓

Question 7: How many arrows should come out of a decision symbol in a flowchart? (1-2)

✓

0

1

2

✓

3

Question 8: The following algorithm should take as input and add together two numbers, outputting the result.

✓

Identify the correct algorithm. (4-5)

```
num1 = input("Enter the first number")
num2 = input("Enter the second number")
num3 = num1 + num2
print(num3)
```

```
num1 = input("Enter the first number")
num2 = input("Enter the second number")
num3 = num1 + num2
print(num3)
```

✓

```
num1 = input("Enter the first number")
num3 = input("Enter the second number")
num3 = num1 + num2
print(num3)
```

```
num1 = input("Enter the first number")
num2 = input("Enter the second number")
num3 = num1 + num2
print(num2)
```

Question 9: The following algorithm should take as input on number, and output the 12 times table for that number.

✓

Identify the correct algorithm. (9)

```
number = input("Enter a number")
for x = 1 to 12
  print(number * x)
next x
```

✓

```
number = input("Enter a number")
for x = 0 to 12
  print(number * x)
next x
```

```
number = input("Enter a number")
for x = 1 to 12
  print(number X x)
next x
```

```
number = input("Enter a number")
for x = 1 to 12
  print(number * number)
next x
```

Question 10: The following algorithm should take as input two numbers, add them together, multiply the answer by 11, add 4, then divide by 2. It should output the result.

✓

Identify the correct algorithm. (9)

```
number = input("Enter a number")
number = input("Enter the second number")
final = (((number + number) * 11) + 4) / 2
print (final)
```

```
number = input("Enter a number")
number2 = input("Enter the second number")
final = (((number + number2) * 11) + 4) * 2
print (final)
```

```
number = input("Enter a number")
number2 = input("Enter the second number")
final = number + number2 + 4 * 11 / 2
print (final)
```

```
number = input("Enter a number")
number2 = input("Enter the second number")
final = (((number + number2) * 11) + 4) / 2
print (final)
```

✓

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