

Started on Thursday, 12 December 2024, 11:07 PM**State** Finished**Completed on** Thursday, 12 December 2024, 11:09 PM**Time taken** 1 min 52 secs**Marks** 13.00/13.00**Grade** 10.00 out of 10.00 (100%)**Question 1**

Correct

Mark 1.00 out of 1.00

To find the address of any given element in an Array, in memory, we can use this equation:

indexAddress = ✓ + (✓ * ✓)

Your answer is correct.

Question 2

Correct

Mark 1.00 out of 1.00

To initialise an array, you **MUST** explicitly specify the size **OR** its contents must be explicitly defined.

☒ True ✓☐ False**Question 3**

Correct

Mark 1.00 out of 1.00

Consider the following line of C# code:

```
int[] myArray = new int[6];
```

What is the index of the last (highest) **index** of myArray?

☐ a. 0☒ b. 5 ✓☐ c. 6☐ d. 7

Your answer is correct.

Question 4

Correct

Mark 1.00 out of 1.00

In the example shown below:

```
int[, ] myArray = new int[20,15];
```

What type of array is being initialised?

- ☒ a. 2 Dimensional, Non-Jagged Array ✓
- ☐ b. 1 Dimensional, Non-Jagged Array
- ☐ c. 1 Dimensional, Jagged Array
- ☐ d. 2 Dimensional, Jagged Array

Your answer is correct.

Question 5

Correct

Mark 1.00 out of 1.00

To initialise a List, you **MUST** declare the data **type** being stored.

- ☒ True ✓
- ☐ False

Question 6

Correct

Mark 1.00 out of 1.00

What answer below best describes what happens to a List when a new item is appended, using the .Add() command?

- ☐ a. If there is space (capacity), the item is added to the end of the list. If there is not enough space the item is silently discarded.
- ☐ b. As lists are always fixed-size and cannot change size after creation, the least recently accessed element is replaced with the new value.
- ☐ c. The list only ever contains enough space for the current number of items. Calling add results in a new list being created and all values being copied over. Then the new item is added to the new empty space.
- ☒ d. If there is space (capacity), the item is added to the end of the list. If there is not enough space the list is resized and the new item is added, size is incremented by one. ✓

Your answer is correct.

Question 7

Correct

Mark 1.00 out of 1.00

Strings, in C#, are **immutable**. This means it cannot be changed once it has been created.

- ☒ True ✓
- ☐ False

Question 8

Correct

Mark 1.00 out of 1.00

A String is an example of a collection.

What expression below **BEST** describes this collection?

- ☒ a. IEnumerable<char> ✓
- ☐ b. Dictionary<int, char>
- ☐ c. List<char>

Your answer is correct.

Question 9

Correct

Mark 1.00 out of 1.00

A Dictionary **DOES NOT** require the data **types** of the key and value, to be declared when the dictionary is created.

- ☐ True
- ☒ False ✓

Question 10

Correct

Mark 1.00 out of 1.00

BOTH the types of the **KEY** and **VALUE** of a Dictionary entry **MUST** be of the same data type

- ☐ True
- ☒ False ✓

Question 11

Correct

Mark 1.00 out of 1.00

To initialise a HashSet you **DO NOT** require the data type.

- ☐ True
- ☒ False ✓

Question 12

Correct

Mark 1.00 out of 1.00

In C#, how would we define a Set/HashSet?

Sets are ✓ collections of ✓ elements.

Your answer is correct.

Question 13

Correct

Mark 1.00 out of 1.00

Given the following code:

```
var numbers = new HashSet<int>{1,6,3,7,8};
```

What happens if I run the operation below?

```
numbers.Add(6);
```

- ☐ a. A runtime error/exception occurs.
- ☐ b. The HashSet adds 6 to the set.
- ☒ c. Nothing happens. ✓
- ☐ d. This code would not compile - sets cannot be modified after creation
- ☐ e. This code would not compile - sets can only contain class types, and int is not a class type.

Your answer is correct.

◀ Worksheet 4 Brief

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