PRG521_FA1

Started: Mar 25 at 9:46am

Quiz Instructions

<u>Instructions:</u>

- *Recall to keep a copy of all submitted assignments.*
- *All work must be typed using Microsoft Word and convert the word document to PDF before uploading to COLCampus.*
- *Kindly note that you will be evaluated on your writing skills in all your assignments.*
- *Negative marking will be applied if you are found guilty of plagiarism, poor writing skills or if you have applied incorrect or insufficient referencing.*
- *Each assignment must include a cover page, table of contents and full bibliography, based on Harvard referencing style.*
- *Students are not allowed to offer their work for sale or to purchase the work of other students. This includes the use of professional assignment writers. If this should happen, CTU training Solutions reserves the right not to accept future submissions from a student.*
- *Spelling, style, fonts, font size, line spacing*

  - *Please copy the questions onto your answer sheet (single space the questions), and make sure to use numbers to indicate the answers to each question.*
  - *Always use a spell checker before you submit assignments! We reserve the right to deduct point for each obvious misspelling.*
  - *Always double-space your answers.*
  - *Please use Arial (or Calibri (Body)), 12 point as the font for your assignments. Certain fonts have been known not to come across in the PDF files.*
  - *Use only black or blue font face colors. Do not use red!*

Question 1   2 pts

Which one of the following statements is correct?

- ○ The rank of an Array is the total number of elements it can contain.

- ○ Array elements can be of integer type only.

- ○ The default value of numeric array elements is zero.

- ● The default value of numeric array elements is zero.

○ The length of an Array is the number of dimensions in the Array.

Question 2   2 pts

If a is an array of 5 integers then which of the following is the correct way to increase its size to 10 elements?

○ int[] a = new int[5]; a.Length = 10 ;

○ int[] a = new int[5]; a.GetUpperBound(10);

○ int[] a = int[5]; int[] a = int[10];

◉ int[] a = new int[5]; a = new int[10];

○ int[] a = new int[5]; int[] a = new int[10];

Question 3   2 pts

Which of the following statements is correct?

○ Destructors are used with classes as well as structures.

○ C# provides a copy constructor.

○ A constructor can be used to set default values and limit instantiation.

◉ A class can have more than one destructor.

Question 4   2 pts

Which of the following ways to create an object of the Sample class given below will work correctly?

class Sample
{ int i;
Single j;
double k;

```
public Sample (int ii, Single jj, double kk)
{
i = ii;
j = jj;
k = kk;
}
}
```

○ Sample s1 = new Sample(, , 2.5);

○ Sample s1 = new Sample();

○ Sample s2 = new Sample(10, 1.2f);

◉ Sample s3 = new Sample(10, 1.2f, 2.4);

○ Sample s1 = new Sample(10);

Question 5   2 pts

Which of the following is an 8-byte Integer?

◉ Long

○ Byte

○ Char

○ Integer

○ Short

Question 6   2 pts

Which of the following is the correct way to define a variable of the type struct Emp declared below?

```
struct Emp
{
private String name;
private int age;
private Single sal;
```

```
}
1. Emp e(); e = new Emp();
2. Emp e = new Emp;
3. Emp e; e = new Emp;
4. Emp e = new Emp();
5. Emp e;
```

- ○ 2,5

- ○ 1,2,4

- ◉ 4,5

- ○ 1,3

Question 7   2 pts

If a namespace is present in a library then which of the following is the correct way to use the elements of the namespace?

- ◉ Add Reference of the namespace. Import the namespace. Use the elements of the namespace.

- ○ Copy the library in the same directory as the project that is trying to use it. Use the elements of the namespace.

- ○ Install the namespace in Global Assembly Cache. Use the elements of the namespace.

- ○ Add Reference of the namespace. Use the elements of the namespace

- ○ Import the namespace. Use the elements of the namespace.

Question 8   2 pts

How many Bytes are stored by 'Long' Datatype in C# .net?

- ○ 1

- ○ 2

- ◉ 8

- ○ 4

Question 9   2 pts

Arrange the following datatype in order of increasing magnitude sbyte, short, long, int.

○ long < short < int < sbyte

◉ sbyte < short < int < long

○ short < sbyte < int < long

○ short < int < sbyte < long

Question 10   3 pts

Correct Set of Code for given data 'a' and 'b' to print output for 'c' as 74 ? (

○ int a = 12; float b = 6.2f; int c; c = a / convert.ToInt32(b) + a * b; Console.WriteLine(c);

◉ int a = 12; float b = 6.2f; int c; c = a / convert.ToInt32(b) + a * convert.ToInt32(b); Console.WriteLine(c);

○ int a = 12; float b = 6.2f; int c; c = convert.ToInt32(a / b + a * b); Console.WriteLine(c);

○ int a = 12; float b = 6.2f; int c; c = a / b + a * b; Console.WriteLine(c);

Question 11   2 pts

In your own words, describe what a statement is in C#?

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A **statement** in C# is a command given to the computer that gives instructions for the computer to take a specific action, such as display to the screen, or collect input. A computer program is made up of a group of **statements**.

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Question 12   4 pts

List 4 rules to keep in mind when naming variables

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1. Variable names in C# can range from 1 to 255 characters. To make variable names portable to other environments stay within a 1 to 31 character range.
2. Variable names must begin with a letter of the alphabet or an underscore(_).
3. After the first initial letter, variable names can also contain letters and numbers. No spaces or special characters, however, are allowed.
4. Uppercase characters are distinct from lowercase characters. Using all uppercase letters is used primarily to identify constant variables.

ol » li   79 words

Question 13   2 pts

In your own words, describe what a method is in C#?

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Methods in C# is a code block that contains a list of statements. A program causes these statements to be executed by calling the **method** and specifying any required **method** arguments. In C#, every executed instruction is performed in the context of a **method**.

p » span   44 words

Question 14   **4 pts**

In your own words, explain what method overloading is in C#?

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Method overloading in C# is two or more methods having the same name but different **parameters.** Method overloading in C# can be performed by changing the number of arguments and the data type of the arguments

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36 words

Question 15

2 pts

In your own words, explain what an optional parameter is in C#?

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Optional parameter means we call a method without passing **arguments**. The **optional parameter** contains a **default** value in a function definition. If we do not pass **the optional argument** value at calling time, the **default** value is used

p

38 words

Question 16

2 pts

What does it mean when C# is talking about short-circuiting of logical operators?

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Short-circuit is a method for evaluating logical operators such as AND and OR. In this method, the whole expression can be evaluated as true or false without evaluating all subexpressions.

p   30 words

Question 17   12 pts

List 4 and explain types of looping statements in C#.

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- The **for loop**, which counts from one value to another.
- The **foreach loop**, that easily iterates over all elements in a collection.
- The **while loop**, which goes on as long as some **condition** is true.
- And the **do-while loop**, which always executes at least once.

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Question 18   2 pts

Explain the difference between the while and do while loops in C#.

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The main **difference between** a **while loop** and **do while loop** is that **while loop** check condition before iteration of the **loop**. And the **do-while loop** verifies the condition after the execution of the **statements** inside the **loop**.

p   38 words

Question 19   49 pts

Using visual studio (C#) create a program, name it **PRGYOURNAMEFA1,** that implements a search and replace function recursively. Your program should allow a user to enter **a string** , **a substring** to be replaced in the entered string and a **character/s** to replace **the found substring**
Program Structure
1. A main class that implements the logic of the program – name this class **TestSearchReplace**
2. Add a class named **SearchReplace** to the main class with two methods, including:
a. **SearchSubstring()**- return method
b. **ReplaceSubString()** - void method

The two method should be called using an object in the main class. **DONT CREATE THE TWO METHODS IN THE MAIN CLASS**
Sample Output

```
1   Please enter a string: Hello world
2   Please enter the substring you wish to find: llo
3   Please enter a string to replace the given substring: @@
4   Your new string is: he@@ world
```

Marks allocation

Criteria	
Create a program, name **PRGYOURNAMEFA1,**	5 Marks
With two separate class **TestSearchReplace** **SearchReplace**	10
Correct variable declaration with correct data type in class **SearchReplace** · ***a string*** , · ***a substring*** · a ***character/s***	4
Correct method in class **SearchReplace** a. **SearchSubstring()**- return method b. **ReplaceSubString()** - void method	20
The two method should be called using an object from the main class while in **SearchReplace class**	5
Correct output – as shown in the formative	5

Total	49

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