

1. Show what is printed when the following console program runs.

```
{//      01234567890123456789012345678901234567
string s1 = "Too much of a good thing is wonderful.";
Console.WriteLine(s1.Length);           _____
//
char [] sep = { ' ' };
string [] sArr = s1.Split(sep);
Console.WriteLine(sArr[3]);           _____
//
Console.WriteLine(s1.Substring(19, 5)); _____
//
Console.WriteLine(s1.Substring(4, 20).Substring(5, 2)); _____
//
Console.WriteLine(s1.LastIndexOf('e')); _____
//
Console.WriteLine(s1.IndexOf('z'));     _____
//
Console.WriteLine(s1.Remove(12, 16));  _____
//
Console.WriteLine(char.ToUpper(s1[19])); _____
//
Console.WriteLine(char.IsUpper(s1[14])); _____
}
```

2. If s in the sequence below is defined as a string, is the sequence legal? If not, explain why not. If so, what does it print?

```
s = "Jello is good on Wednesdays.";
Console.WriteLine(s.Replace(" ", "").Substring(5, 6).Length);
```

3. In C# there are two classes which allow a user to define strings. One of them is the `string` class and the other is the `StringBuilder` class. What is the difference between the strings created by the two classes.

4. Write a method which will accept a string and return the same string with the first character swapped with the last character. For example, the following sequence:

```
string s = "ABCD";
Console.WriteLine(SwapFirstLast(s));
```

Will print "DBCA"

5. Write a program which inputs a string from the user and prints the number of letters and the number of digits in the string.

6. A program started below initializes a string variable `str`. Write a loop which inputs words from the user. If the word is in the sentence, print "yes" otherwise print "no". Your loop should continue getting words from the user until the user enters "stop".

```
string str = "Be grateful for luck, pay the thunder no mind ";
str += " - listen to the birds and don't hate nobody.";
*****Put your solution here *****
```

7. A telephone directory consists of a list of string entries in the following format:

```
LastName1, FirstName, PhoneNumber, Note
```

For example, one entry may look like this:

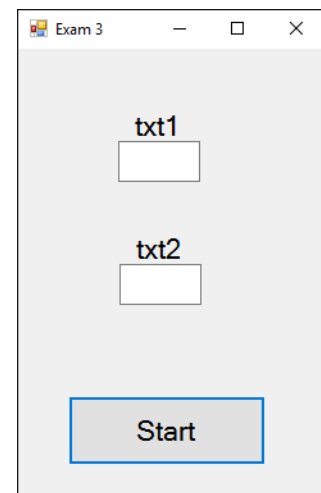
```
Smith, Charles, 479-4321, My second grade teacher.
```

Write a method which will accept a single telephone directory string and return the phone number as a string. A typical calling statement might look like this:

```
string s = "Smith, Charles, 479-4321, My second grade teacher.";
string num;
num = GetNumber(s);
```

8. Write a program to input a string from the user. If the string has an even number of characters print the last half of the string. If the number of characters is odd print only the middle character.

9. The GUI below has two text boxes txt1 and txt2 and a button btnStart. When the button is clicked the program should read the number in txt1. If this number is the same as the previous number that was in txt1 do nothing. If the number in txt1 is different than the previous number print the difference between the number and the previous number in txt2. At the beginning you may assume that the previous number was zero.



10. Write a method which accepts a string and an integer array. Your method should load the array with the ASCII values of the characters in the string. You may assume that the array has been dimensioned the same as the length of the string.