Engr 123 **Name_____**
Hour Exam 3 **March 29, 2017**

1. Show what is printed by each sequence below:

```
{int n = 0;
 string s1 = "Be grateful for luck,";
 string s2 = "pay the thunder no mind, ";
 string s3 = "listen to the birds,";
 string s4 = "and don't hate nobody.";
 string s5 = "Eubie Blake";
 char [] sep = {' '};
 string [] sArr = s1.Split(sep);
 Console.WriteLine(sArr[3]);                    _____
 //
 Console.WriteLine(s1[7]);                      _____
 //
 n = s3.IndexOf('z');
 Console.WriteLine(n);                          _____
 //
 Console.WriteLine("abc "+s5);                  _____
 //
 s1 = s3.Substring(3, 4);
 Console.WriteLine(s1);                         _____
 //
 n = s4.LastIndexOf('o');
 Console.WriteLine(n);                          _____
 //
 Console.WriteLine(s2.Length);                  _____
 //
 s2=s5.Replace("e","y");
 Console.WriteLine(s2);                         _____
 //
 Console.WriteLine(char.ToUpper(s3[12]));       _____
 //
 Console.WriteLine(char.IsUpper(s3[14]));       _____
}
```

2. Explain why the following sequence is illegal in C#.

```
string s1 = "Be grateful for luck,";
s1[5] = 'a';
```

3. Show how to use the Substring function to print the last three letters of string s1 defined below. Assume this is a console application.

```
string s1 = "Be grateful for luck,";
```

4. What does the following sequence print?

```
string s1 = "Hello Mom!";
Console.WriteLine((s1.Substring(1, 3) + "Jello").Length);
```

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5. A grade book is made up of a list of strings all of which have the following format:
`LastName,FirstName,T1,T2,T3,Avg`
Where LastName and FirstName is the name of the student, T1, T2, and T3 are integers representing test scores, and Avg is a double giving the average on the three exams. A typical entry might look like the following:
`Smith,John,99,90,64,84.33`

Write a code sequence which takes a single string named s1 in this grade book and prints the FirstName, LastName, and the Test Average in that order separated by commas. For example if
`s1 = "Smith,John,99,90,64,84.33"`
Your program sequence should print:
`John, Smith, 84.33`

6. Write a *method* which receives a string argument and returns the number of alphabetic characters in the string. Name your method *CountLetters.*

7. Write a sequence to print 100 random upper case characters on the console screen on 100 lines. Hint: the ASCII codes for the upper case characters ranges from 65 (A) to 90 (Z).

8. A *static* class named MyClass has a public static method named FindX which accepts a single integer argument and returns a single integer result. Assuming you have a console application show how to call the method, pass it the integer 5, and print the result.

9. A *non-static* class named YourClass has a public non-static method named FindY which accepts a single integer argument and returns a single integer result. Assuming you have a console application show how to call the method, pass it the integer 5, and print the result.

10. Write a method which receives a string argument and returns the *index* of the character which is last alphabetically in the string as an int. For example, if the string argument is "AbcXyz" your method would return a 5 since the letter z is the last alphabetically in the string and its index is 5.

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Practical In Class

Write a C# program that has the following GUI. There is one text box, `txt1`, two list boxes `lst1` and `lst2`, and a button, `btnClickHere`. Write the button click event to do the following:

A) Read the text in txt1. If the txt length is 0 return. If the text length is greater than 0 create a character variable called *c* which is equal to the first character in the text.
B) If *c* is a digit add it to the sum of the integers in lst1 and add the new sum to the list box.
C) If *c* is a character other than a digit clear add the character to lst2.