Chapter 4A (Part I) Review

Due on Monday (10:00 pm)
Total points possible is 20
No late submissions will be accepted

Print this document, work through the questions prior to starting the self-assessment. You will be submitting your answers using the Assessment Tool, with the link found in the Assessments labeled **Chapter 4A Review**. There will be a 1 hour time limit when submitting your answers, so be sure to answer all questions prior to your submission. Each question is worth 1 point unless otherwise noted.

NOTE: In the assessment, the answers will be presented in a random order, so make sure you select the correct response and not the letter you select here.

1. The result of the *testedExpression* if(aValue == 13) is
   a. true or false b. 13 c. an integer value d. aValue
   e. determined by an input statement

2. Which expression is evaluated first in the following statement?
   if(a > b && c == d || a == 10 && b > a + 7)
   a. a > b b. b && c c. d || a d. a + 7 e. none of these

3. Which expression is evaluated second in the following statement?
   if(a > b && c == d || a == 10 && b > a + 7)
   a. a > b b. b && c c. d || a d. a + 7 e. none of these

4. What will be displayed on the console after the following code segment executes. Assume the user entered 4.

```
    //declare variables
int num = 0;
int total = 0;
//get input from user
Console.Write("Enter a number from 1 through 10:  ");
num = Convert.ToInt32(Console.ReadLine());
//process the data
switch (num)
{
    case 1:
    case 2:
        total = 5;
        break;
    case 3:
        total = 10;
        break;
    case 4:
        total = total + 3;
        break;
    case 6:
        total = total + 6;
        break;
    default:
        total = total + 4;
        break;
}
//display the output
Console.WriteLine("The value of total is {0}", total);
```

5. What is displayed on the console when the following code segment executes?

```
int score = 40;
if (score > 95)
    Console.WriteLine("Congratulations!");
    Console.WriteLine("That's a high score!");
    Console.WriteLine("Way to go!");
```

a. Congratulations!

b. Congratulations!
   That's a high score!

c. Congratulations!
   That's a high score!
   Way to go!

d. That's a high score!
   Way to go!

e. Way to go!

6. Which statements are valid C# statements which properly check the variable `station` to determine whether it contains the character E, and if it does, display "Make it so" and then advance to a new line?

a. `if station is equal to E`
   `Console.WriteLine("Make it so");`
b. `if (station = "E")`
   `Console.WriteLine("Make it so");`
c. `if (station == E)`
   `Console.WriteLine("Make it so");`
d. `if (station == 'E')`
   `Console.WriteLine("Make it so");`
e. none of these

7. What will be displayed on the console when the following code segment executes.

```
int f = 7, b = 15;
f = b % 2;
if (f != 1)
{
    f = 0;
    b = 0;
}
else if (f == 2)
{
    f = 10;
    b = 10;
}
else
{
```

```
            f = 1;
            b = 1;
        }
        Console.WriteLine("{0}  {1}", f, b);
```

a. 7 15 b. 0 0 c. 10 10 d. 1 1 e. none of these

8. Examine the code segment to complete the following question. (Be careful)

```
        if (numA == numB);
            numC = 13;
```

When will numC be assigned the value of 13?

a. When numA is equal to numB
b. When numA is not equal to numB
c. Never
d. Every time the program is executed
e. Not enough information is given

9. Assume the following variables have all been declared as `int` (`aValue, bValue, result`). What will display on the console when `aValue` = 47, `bValue` = 13?

```
        result = aValue > bValue + 34 ? 1000 : 2000;
        Console.WriteLine(result);
```

10. Given the switch statement, which of the following would be the first if statement to replace the first test in the switch?

```
        switch (control)
        {
            case 17:
                ncc = 1701;
                break;
            case 27:
                ncc = 1803;
                break;
            case 33:
                ncc = 1994;
                break;
            default:
                ncc = 2013;
                break;
        }
        Console.WriteLine("NCC Enterprise {0}", ncc);
```

a. `if (case = 17)`
b. `if (case == 17)`
c. `if (switch == 17)`
d. `if (control == 17)`
e. None of these

11. Copy the code shown on the last page and complete the following specifications and requirements. (10 points)

As you can see from the source code, the user is requested to enter three numbers which have already been declared for you as integers. Complete the application to do the following:

a. If all three numbers are the same, display “All three numbers are the same”
b. If the first two numbers are the same, display “The first two numbers are the same”
c. If the first and last numbers are the same, display “The first and last numbers are the same”
d. If the last two numbers are the same, display “The last two numbers are the same”
e. If all three numbers are unique, display “No two numbers are the same”
f. You are required to use nested if/else and comparison operators. In other words do not use the logical (comparison) operators for AND or OR.

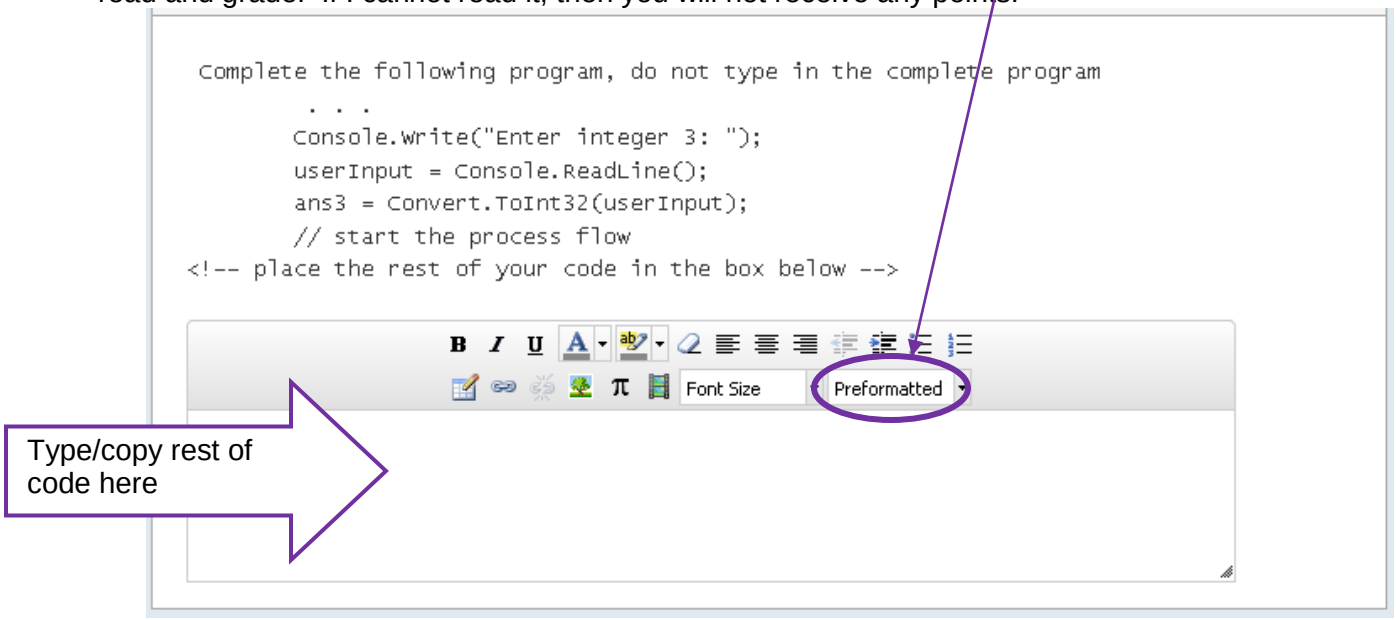
Hints: plan it out before hand; grab three items and then walk through how you would assess the given scenarios. Ask yourself yes or no questions and then plan your thought process – draw a flowchart.

After you have verified that your code executes

- the user (me) will enter only valid digits (no validation is required)
- Make sure you have selected **predefined** as shown in the example on the next page.
- Copy and paste to the answer box, your code starting from the next line after the comment line (// start the process flow).
- Your internal comments are for a group of statements and precise. Yes, internal comments are required.

Even if your code doesn’t work accurately, turn it in, there is always partial credit for attempting these exercises.

Here is the question from the Assessment; note that the “Format” drop down box must be set to “Preformatted”, otherwise, the code will lose all of the formatting and will be difficult for me to read and grade. If I cannot read it, then you will not receive any points.



Code to copy: compareNumbers.cs

```
//use for Chapter 4A Review
using System;
public class CompareNumbers
{
    public static void Main()
    {
        //declare variables
        string userInput;
        int ans1, ans2, ans3;

        //get data from the user and convert appropriately
        Console.Write("Enter an integer ");
        userInput = Console.ReadLine();
        ans1 = Convert.ToInt32(userInput);


        Console.Write("Enter an integer ");
        userInput = Console.ReadLine();
        ans2 = Convert.ToInt32(userInput);

        Console.Write("Enter an integer ");
        userInput = Console.ReadLine();
        ans3 = Convert.ToInt32(userInput);

        // start the process flow
```

For more practice – but not to turn in

12. Create a small program, and type the review questions on page 183 – 184 (Q1-Q6). Try to figure them out yourself first, before executing the source code.

13. Try the Exercises on pages 188-189, 1a, 2a, 3a, 4a, 5a.

Hint for Success: work through the small problems above; the more you practice the more comfortable you will feel "speaking" C#.