ITSE 1430 (DL)- Fall 2016
Quiz 2- Chapters 7-10, 12 & Notes
Total Points: 60

Due: Saturday, October 29th @ 11:59PM. Look at Syllabus/ICR on late work.

Directions: For Questions 1-26, clearly mark answers on a separate word (or notepad) document. See sample file/directions provided by your professor and submit to the appropriate location on the MyTCC (BlackBoard) site.

─ **Assume all variables are properly declared- unless otherwise mentioned.**

Multiple Choice. Mark the one best answer for each question. **(2 pts. each)**

1. In C#, an array subscript must be a(n) _____.
   - A. `float`
   - B. `char`
   - C. `integer`
   - D. `double`

2. A primary difference between an object created from the `String` class and an object created from the `StringBuilder` class is that a `StringBuilder` object is
   - A. immutable
   - B. mutable
   - C. a reference type
   - D. a value type

3. In a `try-catch` statement, the finally block is executed
   - A. if an exception occurs in the `try` block
   - B. if an exception does not occur in the `try` block
   - C. if a `catch` block is executed
   - D. whether or not an exception occurs or a `catch` block is executed

4. Consider the code that follows. What does it do?

```
string value = "2";
try
{
    int num = Convert.ToInt32(value);
}
MessageBox.Show("Valid integer");
catch(FormatException)
{
    MessageBox.Show("Invalid integer");
}
```

   - A. It displays a dialog box with the message `"Valid integer"`.
   - B. It displays a dialog box with the message `"Invalid integer"`.
   - C. The code doesn't compile.
   - D. The code compiles but causes a runtime error.

5. What is the value of `length` after the code that follows is executed?

```
int[][] nums = {new int [] {1, 2, 3},
                new int [] {3, 4, 5, 6, 8},
                new int [] {1},
                new int [] {8, 8}};
int length = nums[2].Length;
```

A. 1   C. 3
B. 2   D. 4

6. Which property of the `DateTime` structure returns the current date with the time set to `12:00:00 AM`?
     A. `Today`   C. `Now`
     B. `CurrentDate`   D. `Date`

7. If the current date is January 3, 2016, what is the value of day after the following statements are run?

```
DateTime date = DateTime.Now;
int day = date.DayOfYear;
```

A. 1   C. 3
B. 2   D. 4

8. What is the value of the variable named `s` after the following statements have been executed?

```
string fullName = "Miller, Edward";
int i = fullName.IndexOf(",");
string s = fullName.Substring(i + 1);
```

A. `Miller,`   C. `, Edward`
B. `Miller`   D. `Edward`

9. What is displayed in the text portion of the combo box `cboNames` after the following method is called?

```
private void select()
{
    cboNames.Items.Clear();
    string[] names = {"Robbie", "Maria", "Sheldon"};
    foreach (string name in names)
        cboNames.Items.Add(name);
    cboNames.SelectedIndex = 1;
}
```

A. `Robbie`   C. `Sheldon`
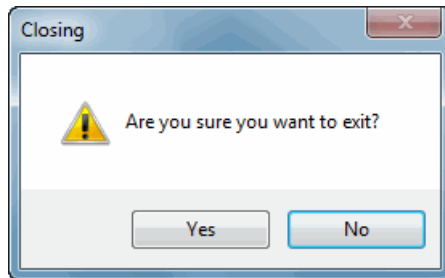B. `Maria`   D. Nothing is displayed

10. A modal form is
     A. a form that can operate in one of several modes
     B. a form that remains open throughout an application
     C. a form that must be closed before the user can continue using other forms
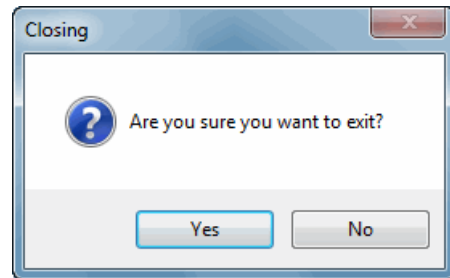   D. a form that is not visible

11. Which of the following message boxes is created by this statement:

```
MessageBox.Show("Are you sure you want to exit?",
                "Closing",
                MessageBoxButtons.YesNo,
                MessageBoxIcon.Question,
                MessageBoxDefaultButton.Button2);
```
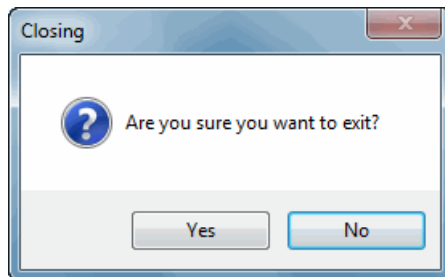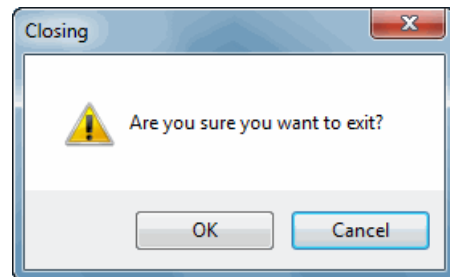
A.

Closing	
⚠ Are you sure you want to exit?	
Yes	No

C.

Closing	
❓ Are you sure you want to exit?	
Yes	No

B.

Closing	
❓ Are you sure you want to exit?	
Yes	No

D.

Closing	
⚠ Are you sure you want to exit?	
OK	Cancel

12. The process of creating an object from a class is known as
   - A. instantiation
   - B. encapsulation
   - C. inheritance
   - D. modeling

13. A read-only property consists of just
   - A. a get method
   - B. a set method
   - C. a set accessor
   - D. a get accessor

14. To make a method in a class available to other classes, you begin the method declaration with
   - A. the `public` keyword
   - B. the `private` keyword
   - C. the `void` keyword
   - D. the `return` keyword

15. Instance methods are _____.
   - A. non-static methods.
   - B. also called class methods.
   - C. defined in the `Main()` method.
   - D. defined outside of the class.

16. Use the following code to answer Question 16:

```
int [] anArray = new int [10];
int [] anotherArray = {6, 7, 4, 5, 6, 2, 3, 5, 9, 1};

foreach (int val in anotherArray)
    total += val;
```

Using the above declaration along with the `foreach` loop, what is stored in `total` after the program statements are executed?

A. 10   C. 48

B. 2   D. 45

17. If a program encounters an error that it cannot recover from, it _____.

     A. elevates the priority level of the program   C. terminates immediately

     B. raises or throws an exception   D. locks up the computer

18. When code is included in all three blocks for the `try-catch-finally` construct, _____.

     A. the `finally` block is never executed

     B. only one of the three blocks gets executed

     C. the `try` block is attempted first

     D. all `catch` clauses are executed

19. Which one of the following statements calls the `Jump` method of the `Animal` class using a reference variable named `fox`?

     A. `Animal.fox.Jump();`   C. `fox.Jump();`

     B. `Animal(fox) = Jump();`   D. `fox = new Jump();`

20. A constructor cannot:

     A. be overloaded.   C. specify return types or return values.

     B. initialize variables to their defaults.   D. have the same name as the class.

Short Answer. Clearly mark answers as directed. Partial Credit will be given. Point values to the right of the question. **(20 @ 2 each)**

21. Given the string that follows, write code that splits the string into four strings using the hyphens as delimiters. The strings should be stored in an array named parts.

```
string crnum = "1111-2222-3333-4444";
```

22. Code a statement that assigns the value 100 to the element in the second row and fourth column of an array of `ints` named `values`.

23. Write the code that turns on the value in a check box named `chkSportFan`.

24. Code a statement that sets the value of the `Age` property of an `Account` object named `account` to the value in a variable named `newAge`.

25. Rewrite the property below using an expression body.

```
public decimal SalesTax
{
    get
    {
        return total * SalesTaxPct;
    }
}
```

26. Create a C# console program application that instantiates and displays a `ClassifiedAd` object. A `ClassifiedAd` has fields for a category (i.e. used cars), a number of words, and a price. Include properties that contain get and set accessors for the category and number of words, but only a get accessor for the price. The price is calculated a nine cents per word. Place all classes into one file.

Sample Run:

```
The classified ad with 100 words in category Used cars costs $9.00
```

Fill in the missing parts of the program below to solve the problem as stated above. Do not add any additional lines of code. (**10 @ 2 each**)

```
//TestClassifiedAd.cs

_____                                     //1
public class TestClassifiedAd {
   public static void Main() {
    ClassifiedAd myClassifiedAd = new ClassifiedAd();
    myClassifiedAd.Category = "Used cars";
    myClassifiedAd.Words = 100;
    Console.WriteLine("The classified ad with {0} words in category {1}
       costs {2}", myClassifiedAd.Words, myClassifiedAd.Category,
          ClassifiedAd.Price.ToString("C"));
  }
}
_____                                         //2
{
   const double PRICE_PER_WORD = 0.09;
   private int words;
   private double price;
   public string Category {get;set;}
   public int Words{
```

```
    get{
        return words;
    }
    set{
        _____                          //3
        price = words * PRICE_PER_WORD;
    }
  }

  _____                    //4
    get{
        _____                            //5
    }
  }
}
```

==

Extra Credit: Implement the following program. Follows same program guidelines and graded on the same scale as program sets. Submit only your `.java` file- no test runs required. Partial credit given. (**10 points)**

Write a C# console program that plays the game penny pitch. In penny pitch, a two-dimensional board (5 x 5) of numbers laid out as follows:

```
1 1 1 1 1
1 2 2 2 1
1 2 3 2 1
1 2 2 2 1
1 1 1 1 1
```

A player tosses five pennies on the board, aiming for the number with the highest value. At the end of the game (5 rounds), the sum total of the tosses is returned. The program should display the board and then perform the following steps each time the user presses `Enter`

- Generate two random numbers for the row and the column of the toss.
- Add the number at this position to running total.
- Display the board, replacing the numbers with `P`s where the pennies land.

Output should look similar to below.

Sample Run (partial):

```
  1  1  1  1  1
  1  2  2  2  1
  1  2  3  2  1
  1  2  2  2  1
  1  1  1  1  1
Press Enter to toss a penny

Toss #: 1
```

```
Total amount: 1
  1  1  1  1  P
  1  2  2  2  1
  1  2  3  2  1
  1  2  2  2  1
  1  1  1  1  1
Press Enter to toss a penny

….

Toss #: 4
Total amount: 7

  1  1  1  1  P
  P  2  2  P  1
  1  2  P  2  1
  1  2  2  2  1
  1  1  1  1  1
Press Enter to toss a penny

Toss #: 5
Total amount: 9
  1  1  1  1  P
  P  2  2  P  1
  1  2  P  2  1
  1  P  2  2  1
  1  1  1  1  1
```

Name the program: `PennyPitchXX.cs`, where XX are your initials.