

Tutorial - Week 03

Classes and Interfaces

- 1 What is an interface and what are the types of interfaces? (Draw)
2. Create a console project named **BankApp**
3. Create an interface and name it as **IAccount**. Declare the method called **PrintAccountData()**
4. Create 02 classes and name it as **SavingAccount** and **CurrentAccount**. Each class needs to implement an interface.
5. Your main method and the final output is already given below. Complete all the tasks.

```
static void Main(string[] args)
{
    IAccount savingAccount = new SavingAccount();
    savingAccount.PrintAccountData();
    IAccount currentAccount = new CurrentAccount();
    currentAccount.PrintAccountData();

    Console.ReadLine();
}
```

Final Output :

```
Saving account data.
Current account data.
```

Exceptions

1. What is the difference between throw and throws?
2. What is the base class of all the exceptions?
3. What will be the output of the following code snippet:

```
using System;
class MyProgram
{
    static void Main(string[] args)
    {
        int index = 6;
        int[] arr = new int[5];
        try
        {
            arr[index] = 100;
        }
        catch(IndexOutOfRangeException e)
        {
            Console.WriteLine("Index out of bounds occurred");
        }
        Console.WriteLine("Program execution continued after Exception Handling");
    }
}
```

4. What will be the output of the following code snippet:

```
using System;
class MyProgram
{
    static void Main(string[] args)
    {
        try
        {
            Console.WriteLine("Exception:" + " " + 1/Convert.ToInt32(0));
        }
        catch(ArithmeticException e)
        {
            Console.WriteLine("Divide by Zero error");
        }
        Console.ReadLine();
    }
}
```

5. What will be the output of the following C# code?

```
class program{  
    static void main(string[] args)  
    {  
        int i = 5;  
        int v = 40;  
        int[] p = new int[4];  
        try  
        {  
            p[i] = v;  
        }  
        catch(IndexOutOfRangeException e) {  
            Console.WriteLine("Index out of bounds");  
        }  
        Console.WriteLine("Remaining program");  
    }  
}
```

6.This program is throwing exception **IndexOutOfRangeException**. Using your skills fix this problem using try-catch block.

```
using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

namespace Null_Reference_Exception
{
    class Program
    {
        static void Main(string[] args)
        {
            string[] list = new string[5];
            list[0] = "Sunday";
            list[1] = "Monday";
            list[2] = "Tuesday";
            list[3] = "Wednesday";
            list[4] = "Thursday";
            for (int i = 0; i <= 5; i++)
            {
                Console.WriteLine(list[i].ToString());
            }
            Console.ReadLine();
        }
    }
}
```

7. The given program is throwing OverflowException. Fix it.

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace Overflow_Exception
{
    class Program
    {
        static void Main(string[] args)
        {
            int num1, num2;
            byte result;

            num1 = 30;
            num2 = 60;
            result = Convert.ToByte(num1 * num2);
            Console.WriteLine("{0} x {1} = {2}", num1, num2, result);
            Console.ReadLine();
        }
    }
}
```

