

## Day 4 Assignment

1. Create a custom exception class named StackException. The Push() and Pop() method should throw object of StackException when the stack is full or empty respectively.

Solution:

Program.cs:

```
using CCA;
using System;

public class demo
{
    static int MAX = 5;
    int[] st = new int[MAX];
    int top = -1;
    bool isempty()
    {
        if (top == -1)
            return true;
        else
            return false;
    }
    public void Push(int data)
    {
        try
        {
            if (top > MAX)
            {
                throw new StackException("Stack Overflow");
            }
            else
            {
                st[++top] = data;
                top++;
            }
        }
        catch(Exception e)
        {
            Console.WriteLine(e.Message);
        }
    }
    public void Pop()
    {
        int data;
        try
```

```

    {
        if (!isEmpty())
        {
            data = st[top];
            top = top - 1;
        }
        else
        {
            throw new StackException("Stack Underflow");
        }
    }
    catch(Exception e)
    {
        Console.WriteLine("Stack Underflow");
    }
}

public static void Main(String[] args)
{
    //Employee emp = new Employee();
    //emp.EmployeeDetails();
    int ch;
    demo se = new demo();
    do
    {
        Console.WriteLine("\n1.Push\n2.Pop\n3.Exit");
        Console.WriteLine("\nEnter the operation");
        ch = Convert.ToInt32(Console.ReadLine());
        switch (ch)
        {
            case 1:
                Console.WriteLine("Enter the value");
                int data = Convert.ToInt32(Console.ReadLine());
                se.Push(data);
                break;
            case 2:
                se.Pop();
                break;
            case 3: break;
        }
    }
    while (ch != 3);
}
}

```

StackException.cs:

```

using System;
using System.Collections;
using System.Collections.Generic;

```

```
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Xml.Linq;
namespace CCA
{
    public class StackException : Exception
    {
        public StackException() { }

        public StackException(string message) : base(String.Format(message))
        {
        }
    }
}
```