

1A. Square Root of Number

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace Program_new_1
{
    class Program
    {
        static void Main(string[] args)
        {
            double argsVal = 0;
            double sqrtVal = 0;
            if (args.Length == 0)
            {
                Console.WriteLine("There is no argument given");
                Console.ReadLine();
                return;
            }
            argsVal = double.Parse(args[0].ToString());
            sqrtVal = Math.Sqrt(argsVal);
            Console.WriteLine("The input is: {0}", argsVal);
            Console.WriteLine("The squareroot is {0}", sqrtVal);
            Console.ReadKey();
        }
    }
}
```

1B. Sum and Average Of two number

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace Program_New_1B
{
    class Program
    {
        static void Main(string[] args)
        {
            double a, b, c;
            double sum = 0, av = 0;
            Console.WriteLine("Entered three numbers are:");
            a = double.Parse(args[0].ToString());
            b = double.Parse(args[1].ToString());
            c = double.Parse(args[2].ToString());
            Console.WriteLine("\n The First Number is=" + a);
            Console.WriteLine("\n The Second Number is=" + b);
            Console.WriteLine("\n The Third Number is=" + c);
            //to calculate sum of three nos
            sum = a + b + c;
            //to calculate average
            av = sum / 3;
            Console.WriteLine("\n Sum of the three number is=" + sum);
            Console.WriteLine("\n Average of the three number is=" + av);
            Console.ReadLine();
        }
    }
}
```

2. Jagged Array

```
using System;
namespace Program_2
{
    class Program
    {
        static void Main(string[] args)
        {
            int[][] jag;
            int i, j, var, sum = 0;
            Console.WriteLine("Enter the number of rows ");
            int row = int.Parse(Console.ReadLine());
            jag = new int[row][];

            for (i = 0; i < row; i++)
            {
                Console.WriteLine("Enter the number of elements in row {0}: ", i + 1);
                var = int.Parse(Console.ReadLine());
                jag[i] = new int[var];

                Console.WriteLine("Enter the {0} values", var);
                for (j = 0; j < var; j++)
                    jag[i][j] = int.Parse(Console.ReadLine());

                Console.WriteLine();
            }

            Console.WriteLine("jag[{0}][:]:", row);

            for (i = 0; i < row; i++)
            {
                for (j = 0; j < jag[i].Length; j++)
                {
                    Console.Write(" " + jag[i][j]);
                    sum = sum + jag[i][j];
                }
                Console.WriteLine();
            }

            Console.WriteLine("Sum of the Jagged Array : "+sum);
            Console.ReadLine();
        }
    }
}
```

3B. ARRAY index out of bound

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

namespace Program_3_B
{
    class Program
    {
        static void Main(string[] args)
        {
            int[] n = new int[5] { 66, 33, 56, 23, 81 };
        }
    }
}
```

```

        int i = 0;
        int sum = 0;
        try
        {
            for (i = 0; i < 7; i++)
            {
                sum += n[i];
            }
            Console.WriteLine("Sum is : " + sum);
            Console.ReadKey();
        }
        catch (IndexOutOfRangeException e)
        {
            Console.WriteLine(e.Message);
        }
        Console.ReadKey();
    }
}

```

3A. Division by zero

```

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

namespace Program_3_B
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Enter numerator");
            int p = int.Parse(Console.ReadLine());
            Console.WriteLine("Enter denominator");
            int q = int.Parse(Console.ReadLine());
            try
            {
                int r = p / q;
                Console.WriteLine("The result is: " + r);
            }
            catch (Exception e)
            {
                Console.WriteLine(e.Message);
            }
            finally
            {
                Console.WriteLine("Execution Complete!!!!");
            }
            Console.ReadLine();
        }
    }
}

```

4. Virtual and override

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace OverrideAndVirtual
{
    class BaseClass
    {
        public virtual string City()
        {
            return "BMSCE";
        }
    }
    class Derived : BaseClass
    {
        public override string City()
        {
            return "BMSIT";
        }
    }
    class Program
    {
        static void Main(string[] args)
        {
            Derived D = new Derived();
            string city = D.City();
            Console.WriteLine("College Name is {0} ", city);
            Console.ReadLine();
        }
    }
}
```

5. Delimeter

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace DelegatePrg
{
    public delegate int deli(int n, int m);
    public class prgDeli
    {
        public int sum(int a, int b)
        {
            return a + b;
        }
        public int diff(int a, int b)
        {
            return a - b;
        }
    }
    class Program
    {
        static void Main(string[] args)
        {

```

```

        prgDeli p1 = new prgDeli();
        //deli d = new deli();
        deli d = p1.sum;
        int i = d(10, 20);
        prgDeli p2 = new prgDeli();
        deli f = p2.diff;
        int j = f(40, 20);
        Console.WriteLine("The sum is: " + i);
        Console.WriteLine("The difference is: " + j);
        Console.ReadKey();
    }
}

```

6. Abstract method and class

```

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace AbstractExamplePrg
{
    public abstract class program
    {
        public abstract int mul(int a, int b);
        public void displ()
        {
            Console.WriteLine("Abstract class program");
        }
    }
    public class demo : program
    {
        public override int mul(int a, int b)
        {
            return a * b;
        }
    }
    class Program
    {
        static void Main(string[] args)
        {
            demo d = new demo();
            int j = d.mul(20, 30);
            d.displ();
            Console.WriteLine("\n*****\n");
            Console.WriteLine("The Multiplicarion of {0} * {1} = {2}", 20, 30, j);
            Console.WriteLine("\n*****\n");
            Console.ReadLine();
        }
    }
}

```