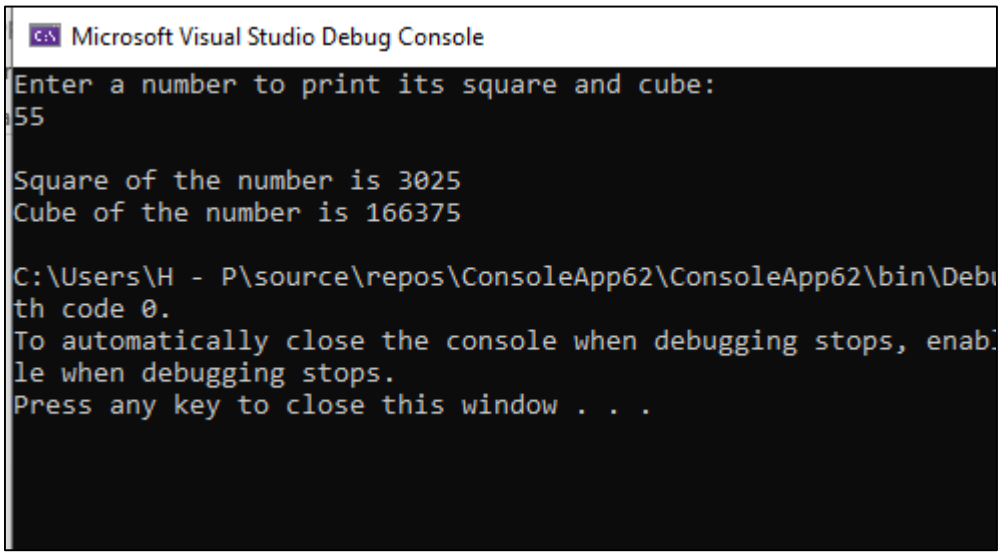
[Lab no. 10] **[COMPUTER PROGRAMING]**
[Implementing Methods]

Task # 01: Write a method named square_cube() that computes the square and cube of the value passed to it and display the result. Ask the user to provide the integer input in the main() and then call the function.

Solution:

```
using System;

namespace ConsoleApp62
{
    class Program
    {

            static void square_cube(int n)
        {
                int sq = n * n;
                int cube = n * n * n;
                Console.WriteLine();
                Console.WriteLine("Square of the number is " + sq);
                Console.WriteLine("Cube of the number is " + cube);
            }
            static void Main(string[] args)
            {
                Console.WriteLine("Enter a number to print its square and cube: ");
                int n = int.Parse(Console.ReadLine());
                square_cube(n);

            }
        }
}
```

Output:

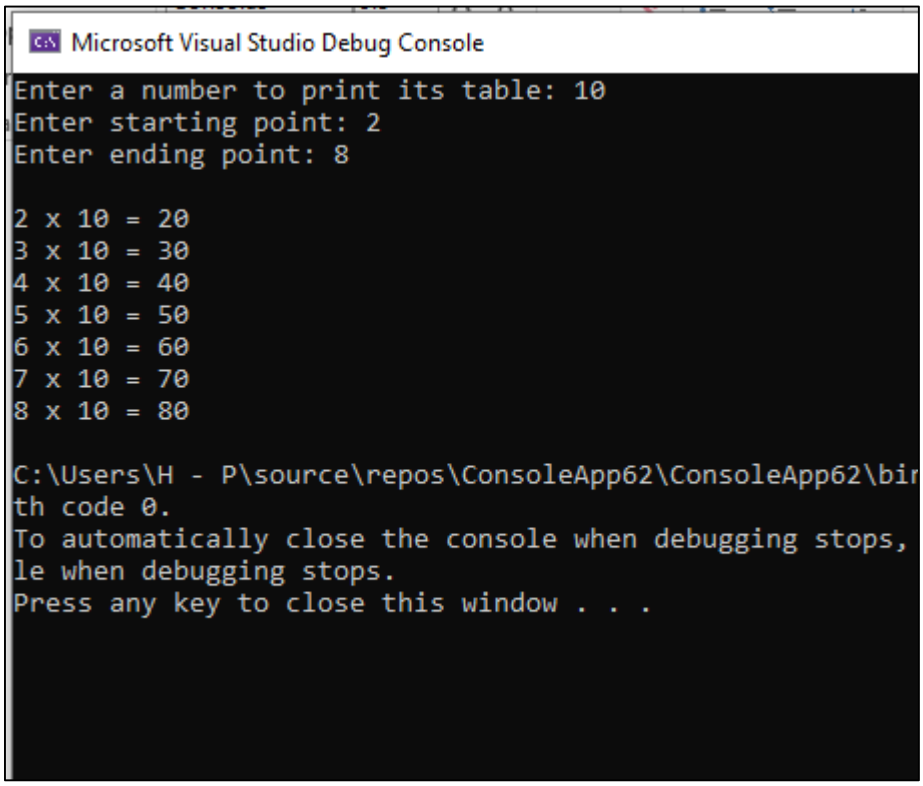


Task # 02: Write a method table() which generates multiplicative table of an integer. The function receives three integers as its arguments. The first argument determine the table to be generated while the second and the third integer tell the starting and ending point respectively. Ask the user to provide the three integer as input in the main().

Solution:

```
using System;

namespace ConsoleApp62
{
    class Program
    {
        static void table(int n, int strt, int end)
        {
            for (int i = strt; i <= end; i++)
            {
                Console.WriteLine("{0} x {1} = {2}", i, n, i * n);
            }
        }
        static void Main(string[] args)
        {
            Console.Write("Enter a number to print its table: ");
            int n = int.Parse(Console.ReadLine());
            Console.Write("Enter starting point: ");
            int st = int.Parse(Console.ReadLine());
            Console.Write("Enter ending point: ");
            int endpoint = int.Parse(Console.ReadLine());
            Console.WriteLine();
            table(n, st, endpoint);

        }
}
}
```

Output:

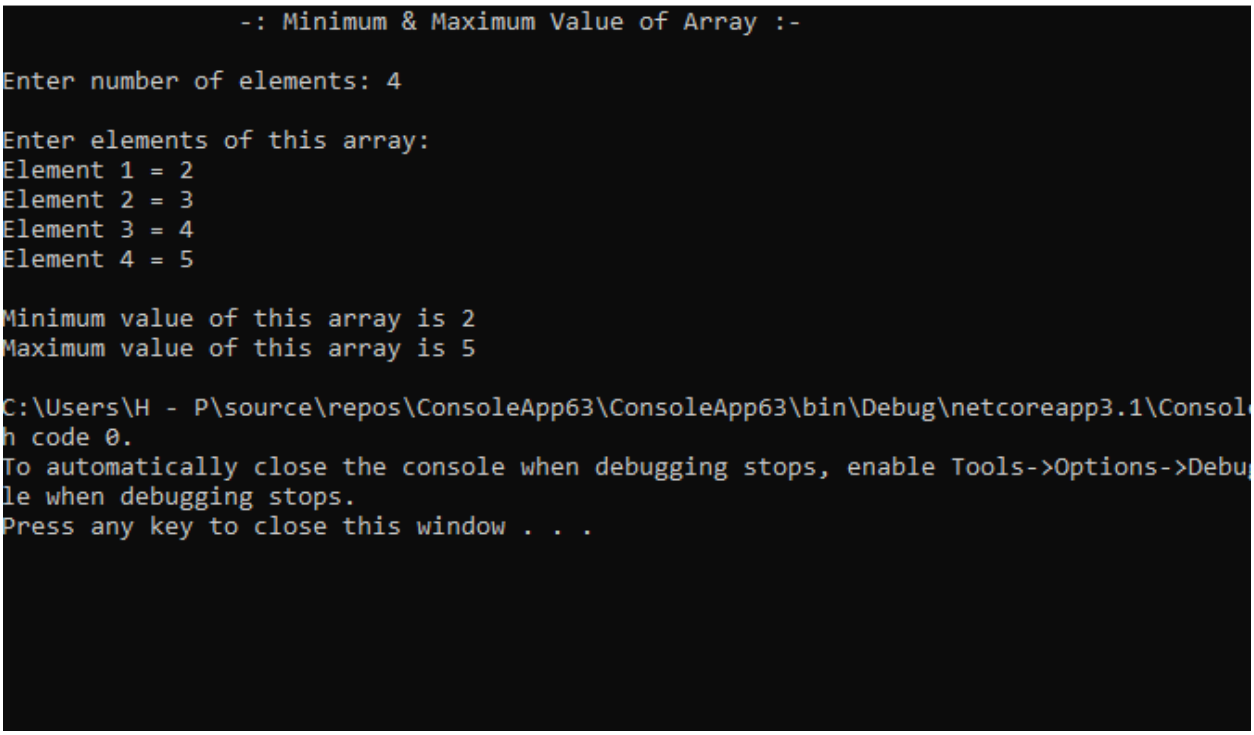

Microsoft Visual Studio Debug Console
Enter a number to print its table: 10
Enter starting point: 2
Enter ending point: 8
2 x 10 = 20
3 x 10 = 30
4 x 10 = 40
5 x 10 = 50
6 x 10 = 60
7 x 10 = 70
8 x 10 = 80
C:\Users\H - P\source\repos\ConsoleApp62\ConsoleApp62\bir
th code 0.
To automatically close the console when debugging stops,
le when debugging stops.
Press any key to close this window . . .

Task # 03: Create two function to find min and maximum value of any int array.

Solution:

```
using System;

namespace ConsoleApp63
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("\t\t-: Minimum & Maximum Value of Array :-\n");
            Console.Write("Enter number of elements: ");
            int n = int.Parse(Console.ReadLine());
            int[] a = new int[n];
            Console.Write("\nEnter elements of this array: \n");
            for (int i = 0; i < n; i++)
            {
                Console.Write("Element {0} = ", i + 1);
                a[i] = int.Parse(Console.ReadLine());
            }
            int min = ar_min(a);
            int max = ar_max(a);
            Console.WriteLine();
            Console.WriteLine("Minimum value of this array is {0}", min);
            Console.WriteLine("Maximum value of this array is {0}", max);
        }
        static int ar_min(int[] a)
        {
            int min = a[0];
            for (int i = 1; i < a.Length; i++)
            {
                if (a[i] < min)
                {
                    min = a[i];
                }
            }
            return min;
        }
        static int ar_max(int[] a)
        {
            int max = a[0];
            for (int i = 1; i < a.Length; i++)
            {
                if (a[i] > max)
                {
                    max = a[i];
                }
            }
            return max;

        }
 }}
```

Output:



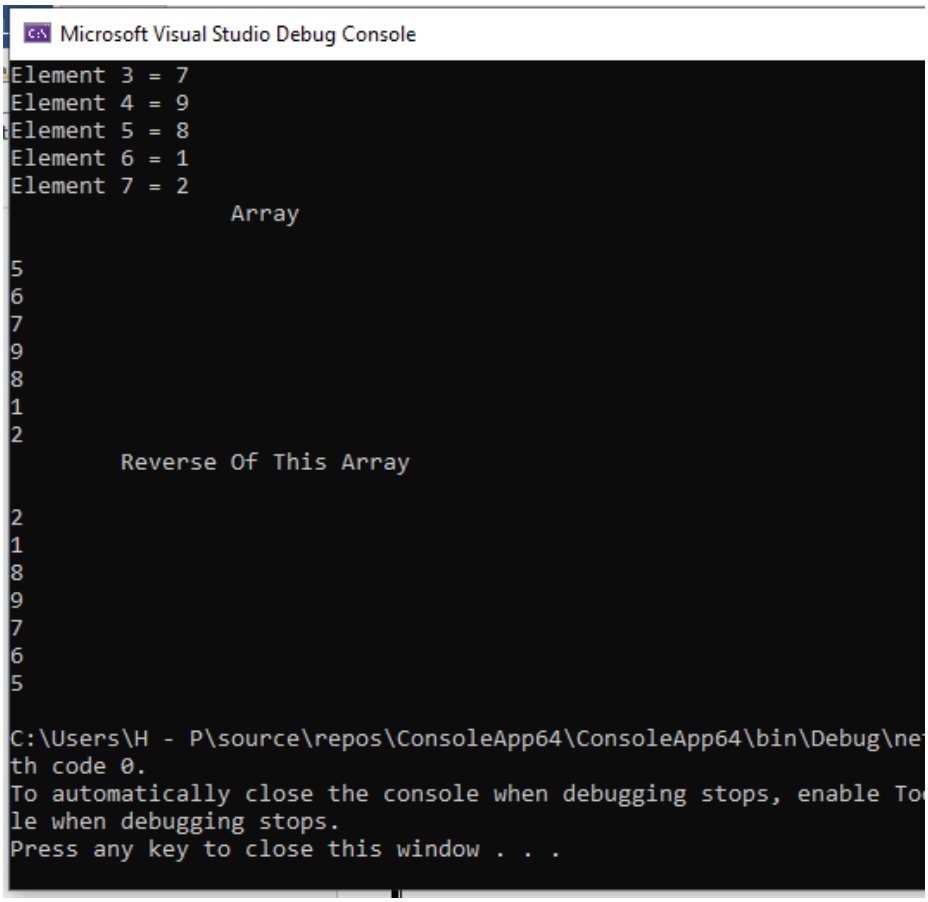
Task # 04: Take input of an array in on method and print reverse of that array.

Solution:

```
using System;

namespace ConsoleApp64
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("\t\t-: Reverse of Array :-\n");
            Console.Write("Enter number of elements: ");
            int n = int.Parse(Console.ReadLine());
            int[] a = new int[n];
            Console.Write("\nEnter elements of this array: \n");
            for (int i = 0; i < n; i++)
            {
                Console.Write("Element {0} = ", i + 1);
```

```
                a[i] = int.Parse(Console.ReadLine());
            }

            Console.Write("\t\tArray\n\n");
            for (int j = 0; j < n; j++)
            {
                Console.WriteLine(a[j]);
            }
            Console.Write("\tReverse Of This Array\n\n");
            ar_reverse(a);
        }
        static void ar_reverse(int[] ar)
        {
            for (int k = ar.Length - 1; k >= 0; k--)
            {
                Console.WriteLine(ar[k]);
            }

        }
    }
}
```

Output:



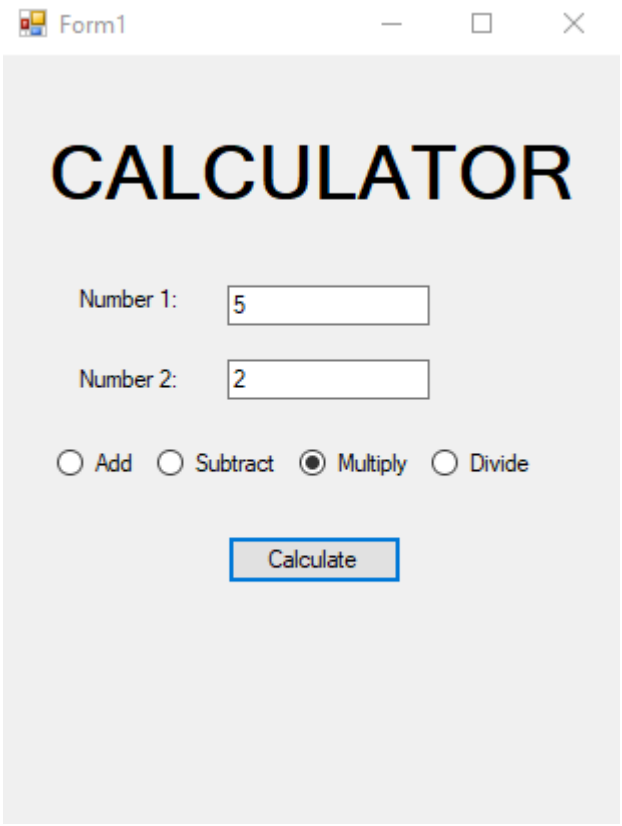
Task # 05: Design a fully functional calculator using function.

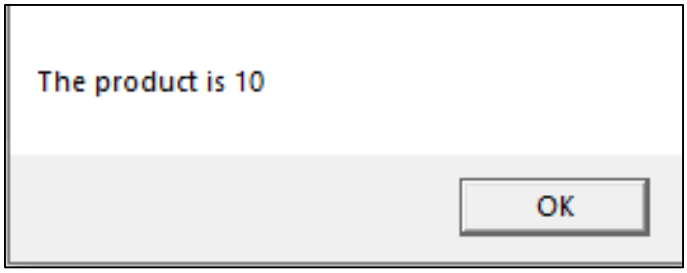
Solution:

```
using System;
usingSystem.Collections.Generic;
usingSystem.ComponentModel;
usingSystem.Data;
usingSystem.Drawing;
usingSystem.Linq;
usingSystem.Text;
usingSystem.Threading.Tasks;
usingSystem.Windows.Forms;

namespace Calculator_CP_10
{
publicpartialclassForm1 : Form
    {
publicForm1()
        {
InitializeComponent();
        }

privatevoid label1_Click(object sender, EventArgs e)
        {

        }

privatevoidbtnCalculate_Click(object sender, EventArgs e)
        {
int num1 = int.Parse(txtnum1.Text);
int num2 = int.Parse(txtnum2.Text);
if(rbAdd.Checked==true)
            {
add(num1, num2);
            }
elseif (rbSubtract.Checked == true)
            {
sub(num1, num2);
            }
elseif (rbMultiply.Checked == true)
            {
multi(num1, num2);
            }
elseif (rbDivide.Checked == true)
            {
div(num1, num2);
            }
        }
staticvoidadd(int num1,int num2)
        {
int res = num1 + num2;
MessageBox.Show("The sum is " + res);
        }
```

```
staticvoidsub(int num1, int num2)
        {
int res = num1 - num2;
MessageBox.Show("The difference is " + res);
        }
staticvoidmulti(int num1, int num2)
        {
int res = num1 * num2;
MessageBox.Show("The product is " + res);
        }
staticvoiddiv(int num1, int num2)
        {
double res = Convert.ToDouble(num1) / Convert.ToDouble(num2);
MessageBox.Show("The quotient is " + res);
        }

privatevoid Form1_Load(object sender, EventArgs e)
        {

        }
    }
}
```

Output:





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