

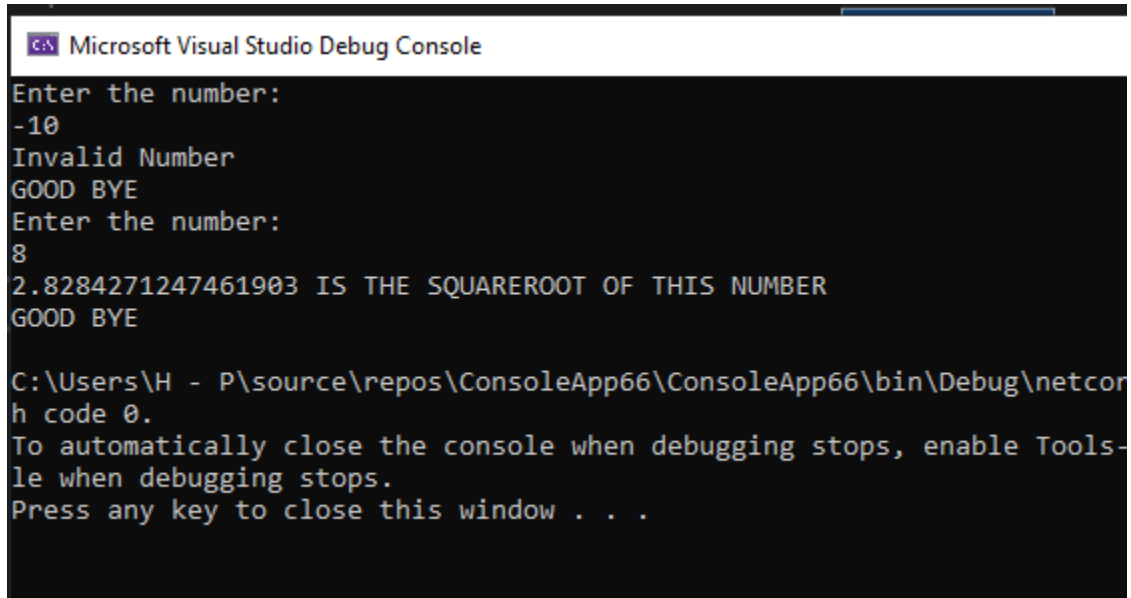
**[Implementing Exception Handling]**

**Task 01:** Write a program that takes a positive integer from the console and prints the square root of this integer. If the input is negative or invalid print "Invalid Number" in the console. In all cases print "Good Bye"?

**Solution:**

```
using System;
using System.IO;
using System.Text;
public class Writer
{
    static void Main(string[] args)
    {
        try { Writing(); }
        catch (Exception e) { Console.WriteLine("ERROR"); }
    }
    static void Writing()
    {
        Console.WriteLine("Enter the number: ");
        double n = Convert.ToDouble(Console.ReadLine());

        if (n >= 0)
        {
            double s;
            s = Math.Sqrt(n);
            Console.WriteLine("{0} IS THE SQUARE ROOT OF THIS NUMBER", s);
            Console.WriteLine("GOOD BYE");
            return;
        }
        if (n < 0 || n != 0)
        {
            Console.WriteLine("Invalid Number");
        }
        Console.WriteLine("GOOD BYE");
        Writing();
    }
}
```

**[Implementing Exception Handling]****Output:**

```
Microsoft Visual Studio Debug Console

Enter the number:
-10
Invalid Number
GOOD BYE
Enter the number:
8
2.8284271247461903 IS THE SQUAREROOT OF THIS NUMBER
GOOD BYE

C:\Users\H - P\source\repos\ConsoleApp66\ConsoleApp66\bin\Debug\netcor
h code 0.
To automatically close the console when debugging stops, enable Tools-
le when debugging stops.
Press any key to close this window . . .
```

**Task 02:** Write a method Read Number(int start, int end) that reads an integer array of 10 values from the console in the range [start...end]. In case the input integer is not valid, or it is not in the required range throw appropriate exception.

**Solution:**

```
using System;

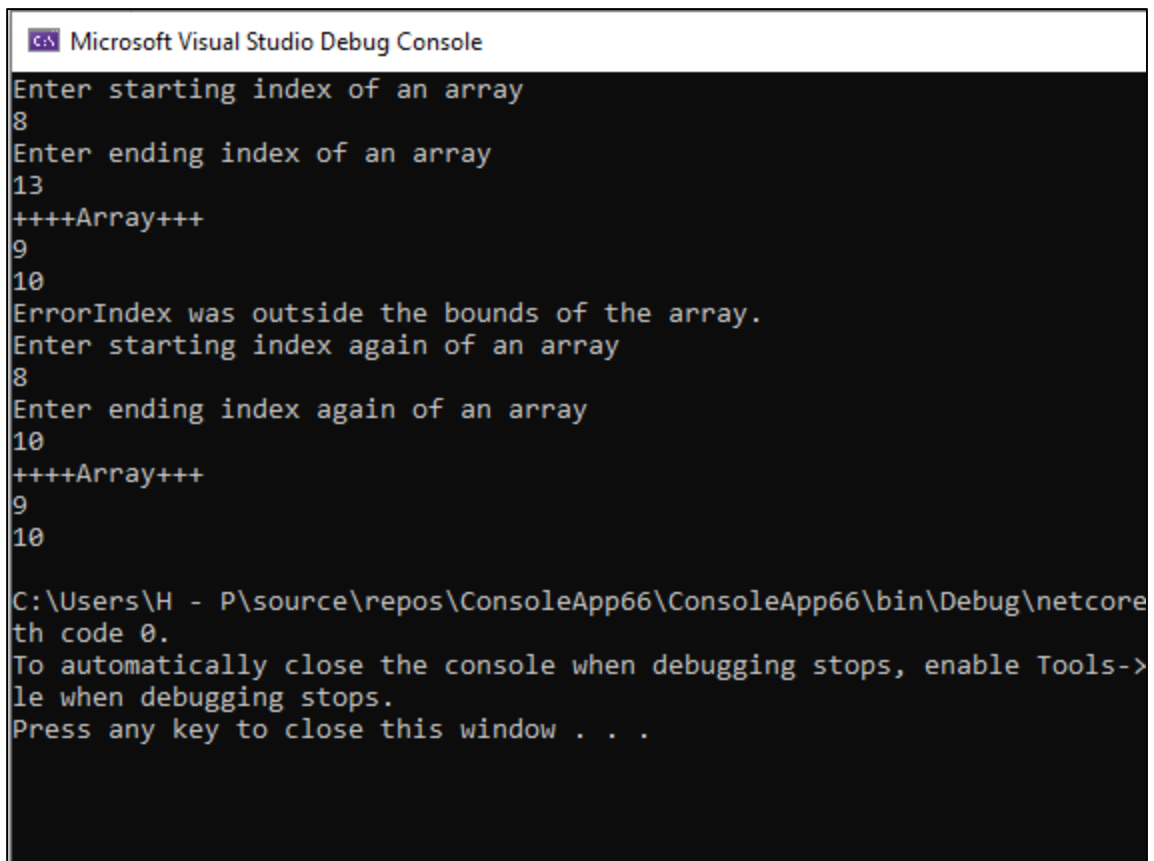
namespace ConsoleApp67
{
    class Program
    {
        public static void Main(String[] args)
        {
            try { arrayread(1, 5); }
            catch (Exception e) { Console.WriteLine("ERROR"); arrayread(1, 3); }
        }
        static void arrayread(int start, int end)
        {
            Console.WriteLine("Enter array size");
            int size = int.Parse(Console.ReadLine());

            int[] array = new int[size];
        }
    }
}
```

**[Implementing Exception Handling]**

```
        array[0] = 1;
        array[1] = 2;
        array[2] = 3;
        array[3] = 4;
        array[4] = 5;

        for (int i = start; i < end; i++)
        {
            Console.WriteLine(array[i]);
        }
    }
}
```

**Output:**

```
Microsoft Visual Studio Debug Console

Enter starting index of an array
8
Enter ending index of an array
13
++++Array+++
9
10
ErrorIndex was outside the bounds of the array.
Enter starting index again of an array
8
Enter ending index again of an array
10
++++Array+++
9
10

C:\Users\H - P\source\repos\ConsoleApp66\ConsoleApp66\bin\Debug\netcore
th code 0.
To automatically close the console when debugging stops, enable Tools->
le when debugging stops.
Press any key to close this window . . .
```

**[Implementing Exception Handling]**

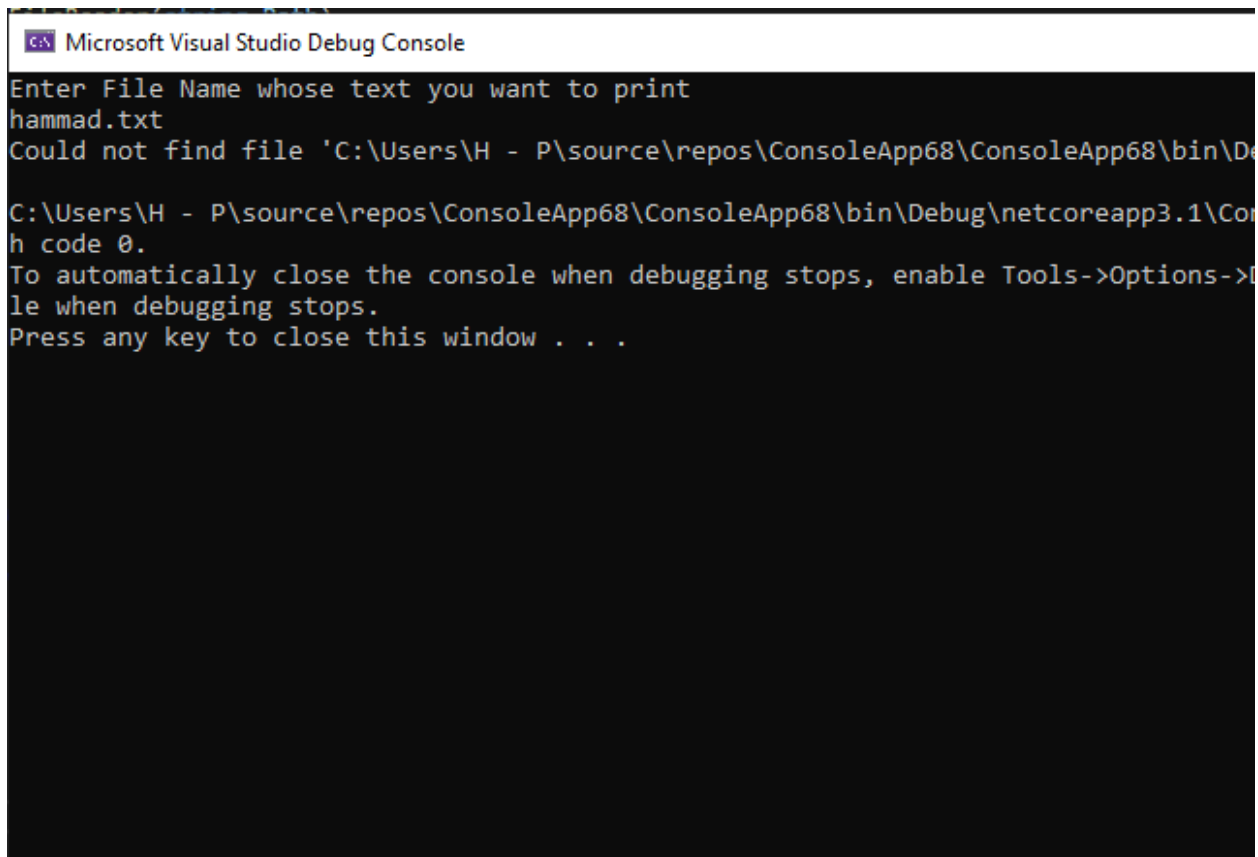
**Task 03:** Write a method that takes as a parameter the name of a text file then, reads the file and returns its content as string. What should the method do if an exception is thrown?

**Solution:**

```
using System;
using System.IO;
using System.Text;
public class Writer
{
    static string ans = "y";
    public static void Main(String[] args)
    {
        try { Writing(); }
        catch (Exception e) { Console.WriteLine("ERROR"); }
    }
    static void Writing()
    {
        if (ans == "y" || ans == "Y")
        {
            Console.Write("Enter the file name: ");
            string Filename = Console.ReadLine();
            if (!File.Exists(Filename))
            {
                Console.WriteLine("{0} does not exist!", Filename);
                return;
            }
            StreamReader sr = File.OpenText(Filename);
            string s = "";
            while((s=sr.ReadLine())!=null)
            {
                Console.WriteLine(s);
            }
            Console.Write("Do you want to continue [Y/N]: ");
            ans = Console.ReadLine();
            Writing();
        }
    }
}
```

[Implementing Exception Handling]

Output:



```
C:\> Microsoft Visual Studio Debug Console
Enter File Name whose text you want to print
hammad.txt
Could not find file 'C:\Users\H - P\source\repos\ConsoleApp68\ConsoleApp68\bin\De
C:\Users\H - P\source\repos\ConsoleApp68\ConsoleApp68\bin\Debug\netcoreapp3.1\Cor
h code 0.
To automatically close the console when debugging stops, enable Tools->Options->D
le when debugging stops.
Press any key to close this window . . .
```

**[Lab no. 12]**

**[COMPUTER PROGRAMING]**

**[Implementing Exception Handling]**