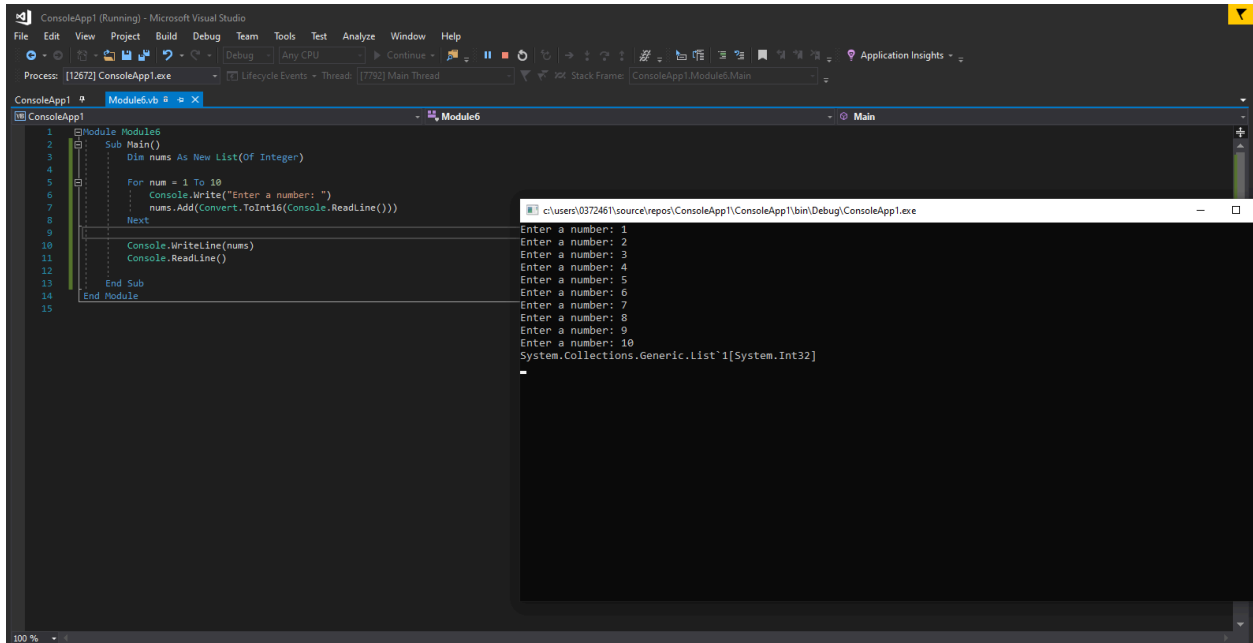


## Topic : Repetition/Iteration – Use FOR..NEXT loop

1. Write a program to add a list of 10 numbers using the loop method. Ask the user to input the 10 numbers.



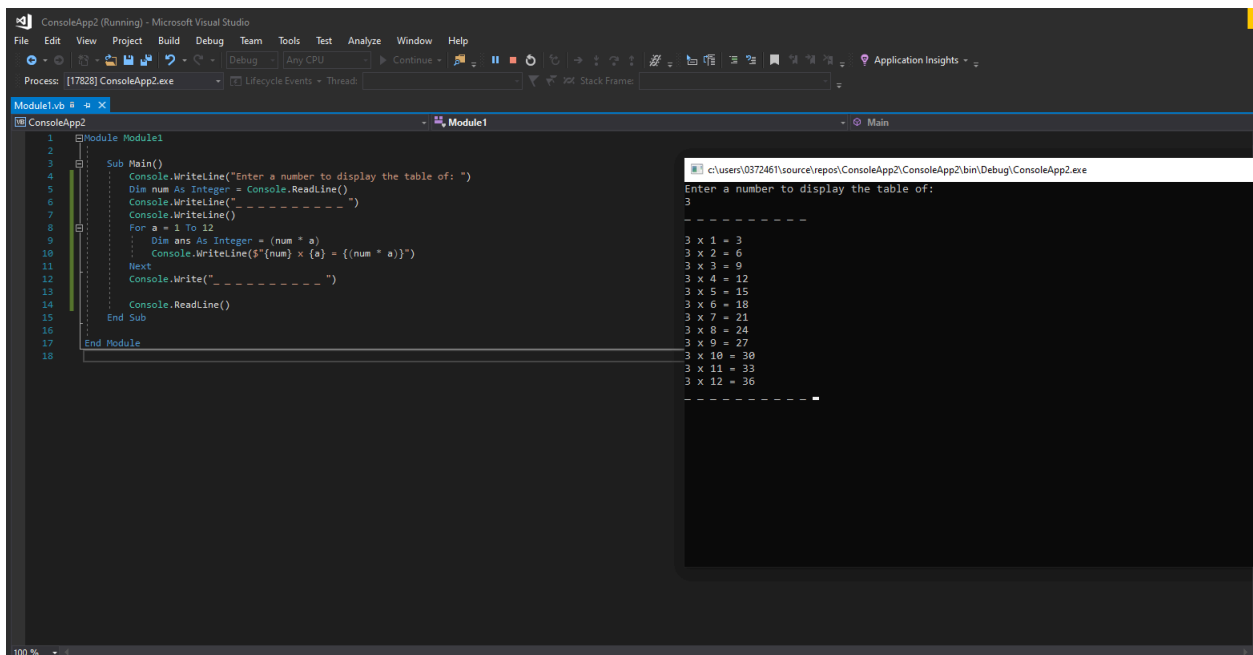
```
1 Module Module6
2 Sub Main()
3 Dim nums As New List(Of Integer)
4
5 For num = 1 To 10
6 Console.WriteLine("Enter a number: ")
7 nums.Add(Convert.ToInt32(Console.ReadLine()))
8 Next
9
10 Console.WriteLine(nums)
11 Console.ReadLine()
12
13 End Sub
14 End Module
15
```

Enter a number: 1  
Enter a number: 2  
Enter a number: 3  
Enter a number: 4  
Enter a number: 5  
Enter a number: 6  
Enter a number: 7  
Enter a number: 8  
Enter a number: 9  
Enter a number: 10  
System.Collections.Generic.List`1[System.Int32]

2. Write a program which outputs the multiplication table of the user's choice. The program will ask the user to enter a number until which the multiplication will be carried out.  
For example if the user enters 5, then the program must produce multiplications from  $1 \times 1 = 1$  till  $1 \times 5 = 5$ .

### Example output

$1 \times 1 = 1$	$1 \times 2 = 2$	$1 \times 3 = 3$	$1 \times 4 = 4$	$1 \times 5 = 5$
$2 \times 1 = 2$	$2 \times 2 = 4$	$2 \times 3 = 6$	$2 \times 4 = 8$	$2 \times 5 = 10$
$3 \times 1 = 3$	$3 \times 2 = 6$	$3 \times 3 = 9$	$3 \times 4 = 12$	$3 \times 5 = 15$
...	...	...	...	...
...	...	...	...	...
$12 \times 1 = 12$	$12 \times 2 = 24$	$12 \times 3 = 36$	$12 \times 4 = 48$	$12 \times 5 = 60$

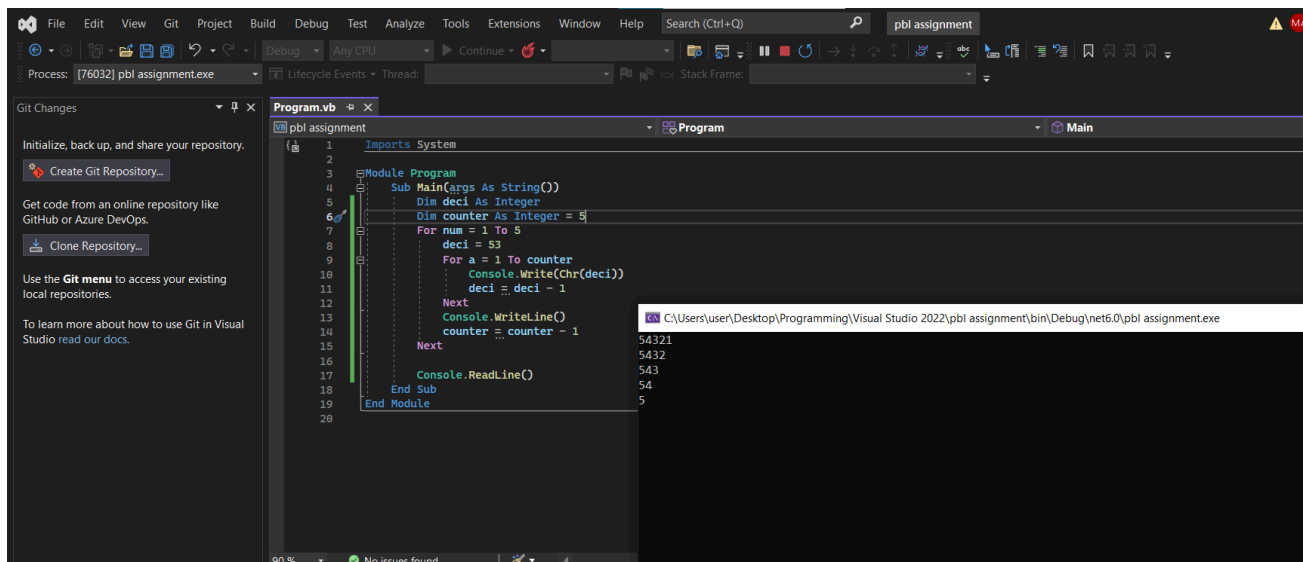


3. Using a NESTED loop, write a program to output the following :

```

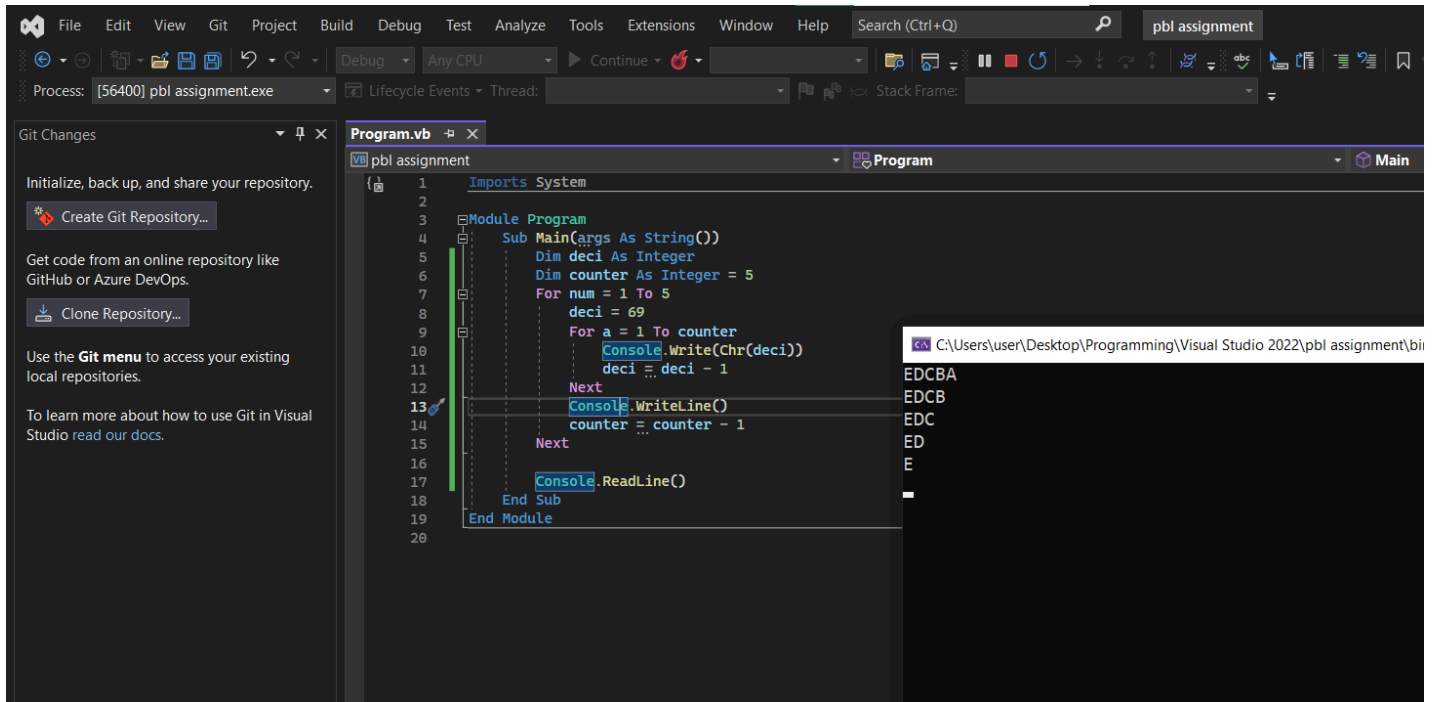
54321
5432
543
54
5

```



4. Using a NESTED loop, write a program to output the following :

```
EDCBA
EDCB
EDC
ED
```



The screenshot shows the Visual Studio 2022 IDE with a project named 'pbl assignment'. The 'Program.vb' file is open, displaying the following code:

```
1 Imports System
2
3 Module Program
4     Sub Main(args As String())
5         Dim deci As Integer
6         Dim counter As Integer = 5
7         For num = 1 To 5
8             deci = 69
9             For a = 1 To counter
10                Console.WriteLine(Chr(deci))
11                deci = deci - 1
12            Next
13            Console.WriteLine()
14            counter = counter - 1
15        Next
16        Console.ReadLine()
17    End Sub
18 End Module
```

The output window on the right shows the execution results:

```
C:\Users\user\Desktop\Programming\Visual Studio 2022\pbl assignment\bin
EDCBA
EDCB
EDC
ED
E
```

E

5. The following pseudocode represents a simple algorithm. Convert this algorithm into a Visual Basic program.

```
DECLARE NumberFound, Remainder, Number : INTEGER
DECLARE StartNumber, EndNumber, Divisor : INTEGER
```

```
INPUT StartNumber
```

INPUT EndNumber

INPUT Divisor

NumberFound 0

FOR Number StartNumber TO EndNumber

    Remainder = MODULUS(Number, Divisor)

    IF Remainder = 0

        THEN

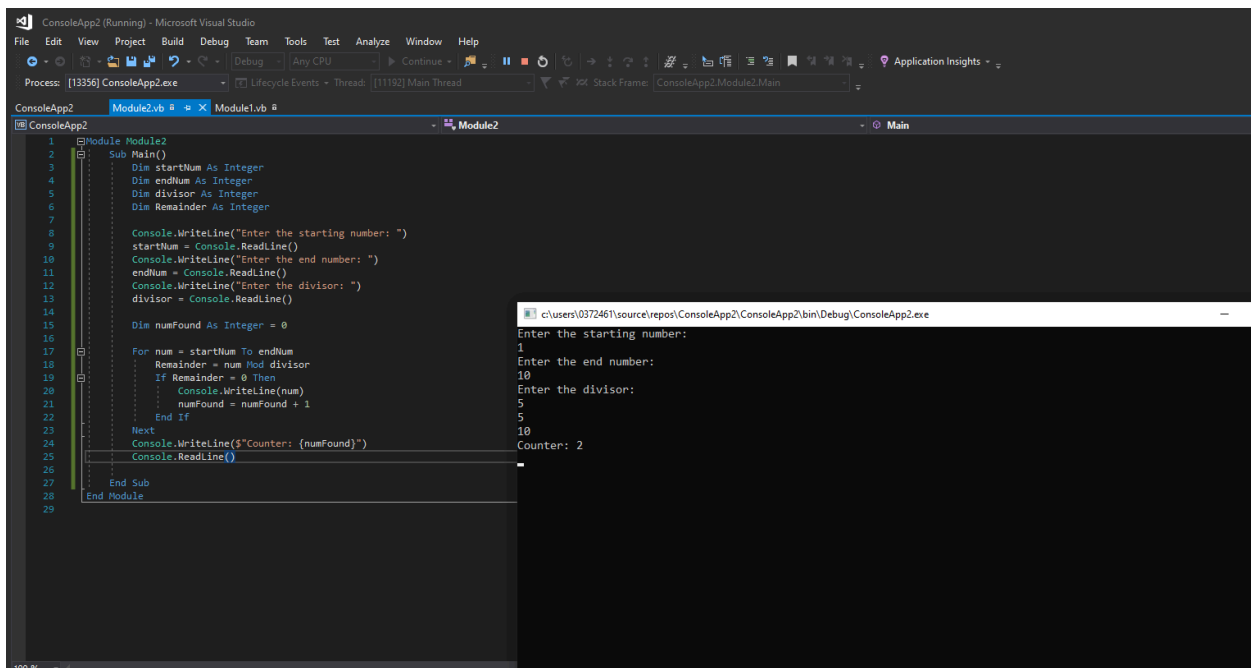
            OUTPUT Number

            NumberFound = NumberFound + 1

        ENDIF

ENDFOR

OUTPUT "Count: " & NumberFound



```
1  Module Module2
2  Sub Main()
3      Dim startNum As Integer
4      Dim endNum As Integer
5      Dim divisor As Integer
6      Dim Remainder As Integer
7
8      Console.WriteLine("Enter the starting number: ")
9      startNum = Console.ReadLine()
10     Console.WriteLine("Enter the end number: ")
11     endNum = Console.ReadLine()
12     Console.WriteLine("Enter the divisor: ")
13     divisor = Console.ReadLine()
14
15     Dim numFound As Integer = 0
16
17     For num = startNum To endNum
18         Remainder = num Mod divisor
19         If Remainder = 0 Then
20             Console.WriteLine(num)
21             numFound = numFound + 1
22         End If
23     Next
24     Console.WriteLine($"Counter: {numFound}")
25     Console.ReadLine()
26
27 End Sub
28 End Module
29
```

c:\users\0372461\source\repos\ConsoleApp2\ConsoleApp2\bin\Debug\ConsoleApp2.exe

Enter the starting number:  
1  
Enter the end number:  
10  
Enter the divisor:  
5  
5  
10  
Counter: 2