

Bahria University,

Karachi Campus



LAB EXPERIMENT NO.

6

LIST OF TASKS

TASK NO	OBJECTIVE
1	Create a Program which prints cube series without using power math function. (Use For loop)
2	Create a Program which prints square series without using power math function (use For loop)
3	Repeatedly print the value of the variable x, value decreasing it by 0.5 each time as long as x value remains positive.
4	Print the square roots of the first 25 odd positive integers.
5	Make a game in C#, in which give 5 tries to the user to guess the value of the number.
6	Generate Stars using 2 for loops.
7	Write a program that reads from the console a positive integer number N ($N < 20$) and prints a matrix of numbers as on the figures below:

Submitted On:

(Date: DD/MM/YY)

Task 1

Create a Program which prints cube series without using power math function. (Use For loop)

Solution:

```
using System;

namespace Zain_CP_LAB_6
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Enter any range:");
            int x = Convert.ToInt32(Console.ReadLine());
            for (int i=0; i<=x; i++)
            {
                Console.WriteLine("i={0} cube is {1}",i,i*i*i);
            }
        }
    }
}
```

Output:

Task 2

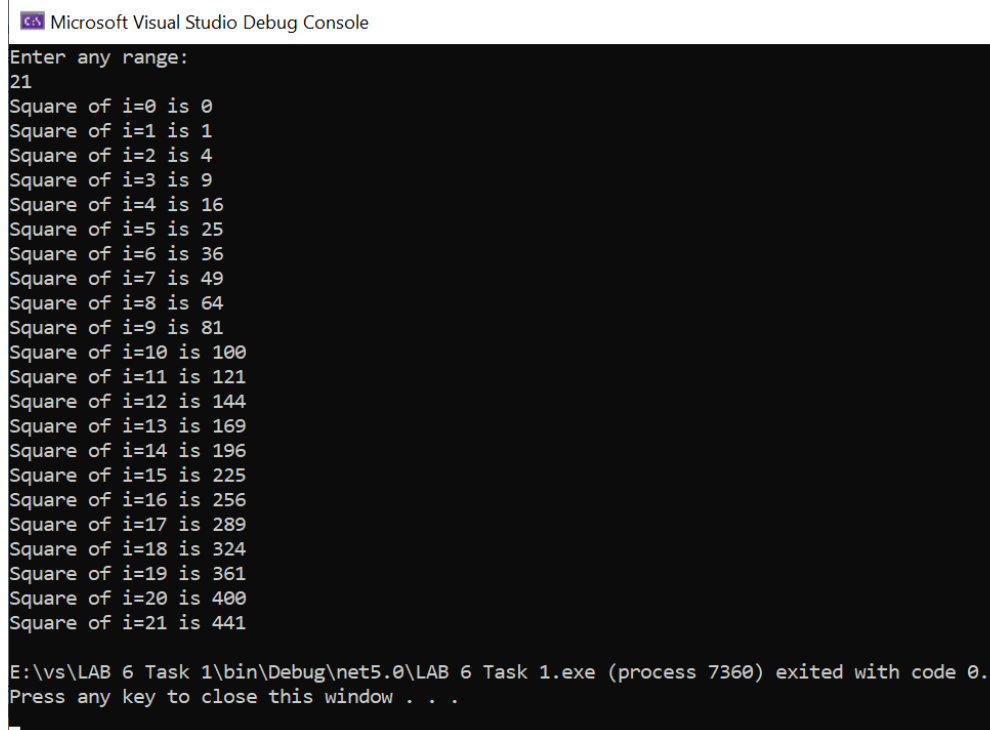
Create a Program which prints square series without using power math function (use For loop)

Solution:

```
using System;

namespace LAB_6_Task_1
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Enter any range:");
            int x = Convert.ToInt32(Console.ReadLine());
            for (int i = 0; i <= x; i++)
            {
                Console.WriteLine("Square of i={0} is {1}", i, i * i);
            }
        }
    }
}
```

Output:



```
Microsoft Visual Studio Debug Console
Enter any range:
21
Square of i=0 is 0
Square of i=1 is 1
Square of i=2 is 4
Square of i=3 is 9
Square of i=4 is 16
Square of i=5 is 25
Square of i=6 is 36
Square of i=7 is 49
Square of i=8 is 64
Square of i=9 is 81
Square of i=10 is 100
Square of i=11 is 121
Square of i=12 is 144
Square of i=13 is 169
Square of i=14 is 196
Square of i=15 is 225
Square of i=16 is 256
Square of i=17 is 289
Square of i=18 is 324
Square of i=19 is 361
Square of i=20 is 400
Square of i=21 is 441

E:\vs\LAB 6 Task 1\bin\Debug\net5.0\LAB 6 Task 1.exe (process 7360) exited with code 0.
Press any key to close this window . . .
```

Task 3

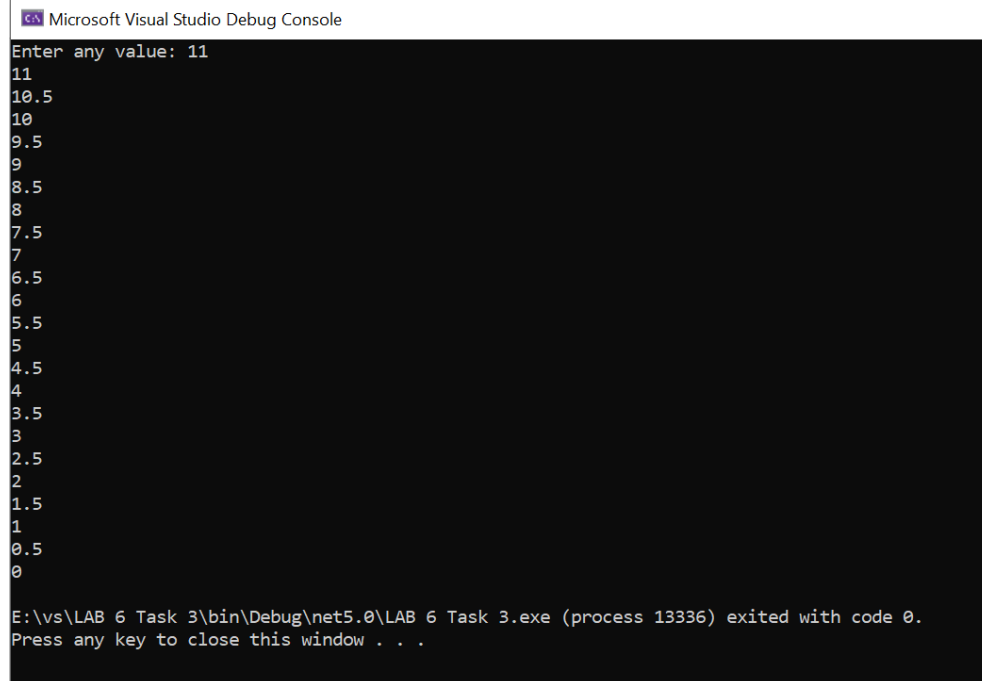
Repeatedly print the value of the variable x, value decreasing it by 0.5 each time as long as x value remains positive.

Solution:

```
using System;

namespace LAB_6_Task_3
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.Write("Enter any value: ");
            double n = Convert.ToDouble(Console.ReadLine());
            for (double x = n; x >= 0; x=x-0.5)
            {
                Console.WriteLine(x);
            }
        }
    }
}
```

Output:



```
Microsoft Visual Studio Debug Console
Enter any value: 11
11
10.5
10
9.5
9
8.5
8
7.5
7
6.5
6
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
E:\vs\LAB 6 Task 3\bin\Debug\net5.0\LAB 6 Task 3.exe (process 13336) exited with code 0.
Press any key to close this window . . .
```

Task 4

Print the square roots of the first 25 odd positive integers.

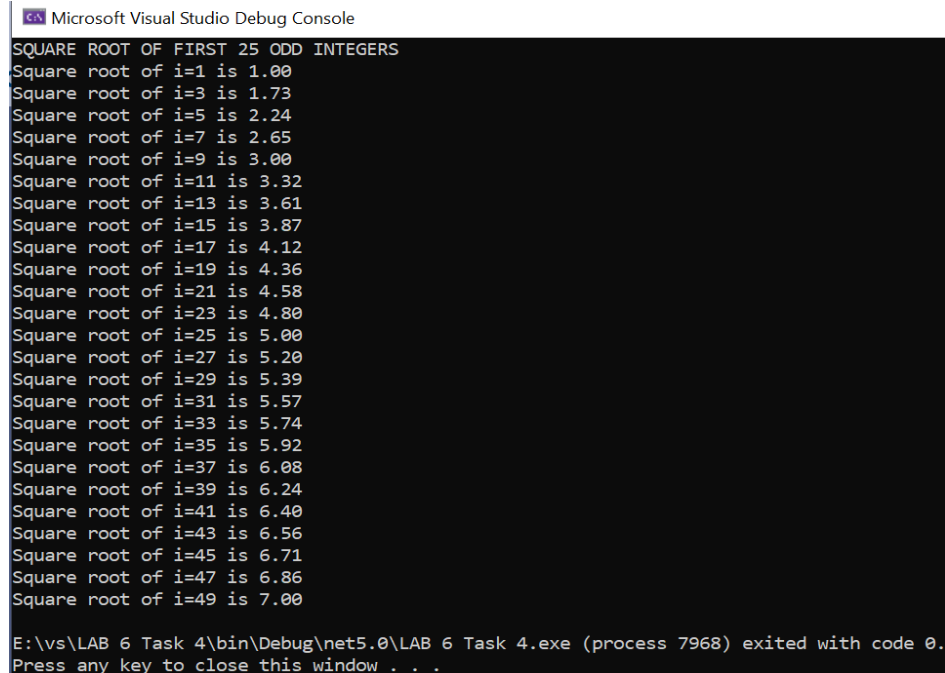
Solution:

```
using System;

namespace LAB_6_Task_4
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("SQUARE ROOT OF FIRST 25 ODD INTEGERS");

            for (int i = 1; i <= 50; i+=2)
            {
                Console.WriteLine("Square root of i={0} is {1:0.00}", i, Math.Sqrt(i));
            }
        }
    }
}
```

Output:



```
Microsoft Visual Studio Debug Console

SQUARE ROOT OF FIRST 25 ODD INTEGERS
Square root of i=1 is 1.00
Square root of i=3 is 1.73
Square root of i=5 is 2.24
Square root of i=7 is 2.65
Square root of i=9 is 3.00
Square root of i=11 is 3.32
Square root of i=13 is 3.61
Square root of i=15 is 3.87
Square root of i=17 is 4.12
Square root of i=19 is 4.36
Square root of i=21 is 4.58
Square root of i=23 is 4.80
Square root of i=25 is 5.00
Square root of i=27 is 5.20
Square root of i=29 is 5.39
Square root of i=31 is 5.57
Square root of i=33 is 5.74
Square root of i=35 is 5.92
Square root of i=37 is 6.08
Square root of i=39 is 6.24
Square root of i=41 is 6.40
Square root of i=43 is 6.56
Square root of i=45 is 6.71
Square root of i=47 is 6.86
Square root of i=49 is 7.00

E:\vs\LAB 6 Task 4\bin\Debug\net5.0\LAB 6 Task 4.exe (process 7968) exited with code 0.
Press any key to close this window . . .
```


Task 5

Make a game in C#, in which give 5 tries to the user to guess the value of the number.

Solution:

```
using System;

namespace LAB_6_Task_4
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("\tGUESSING GAME 2");
            int n = 2401;
            for (int tries = 0; tries < 5; tries++)
            {
                Console.WriteLine("Guess a four digit number!");
                int reply = int.Parse(Console.ReadLine());
                if (reply == n)
                {
                    Console.WriteLine("Your guess is correct!");
                    break;
                }
                else
                {
                    Console.WriteLine("You've guessed the wrong number, Try again.\n\nTries left: {0}", 4 - tries);
                    if (4 - tries == 0)
                    {
                        Console.WriteLine("Oh you're out of tries. GAME OVER");
                    }
                    continue;
                }
            }
        }
    }
}
```

Output: Microsoft Visual Studio Debug Console

```
GUESSING GAME 2
Guess a four digit number!
1234
You've guessed the wrong number, Try again.

Tries left: 4
Guess a four digit number!
2400
You've guessed the wrong number, Try again.

Tries left: 3
Guess a four digit number!
2401
Your guess is correct!

E:\vs\LAB 6 Task 4\bin\Debug\net5.0\LAB 6 Task 4.exe (process 10532) exited with code 0.
Press any key to close this window . . .
```

Task 6

Generate Stars using 2 for loops.

Solution:

```
using System;

namespace LAB_6_Task_5
{
    class Program
    {
        static void Main(string[] args)
        {
            for (int row = 1; row < 8; row++)
            {
                for (int col = 1; col < row; col++)
                {
                    Console.Write("* ");
                }
                Console.WriteLine("\n");
            }
        }
    }
}
```

Output:

Task 7

Write a program that reads from the console a positive integer number N ($N < 20$) and prints a matrix of numbers as on the figures below:

1	2	3
2	3	4
3	4	5

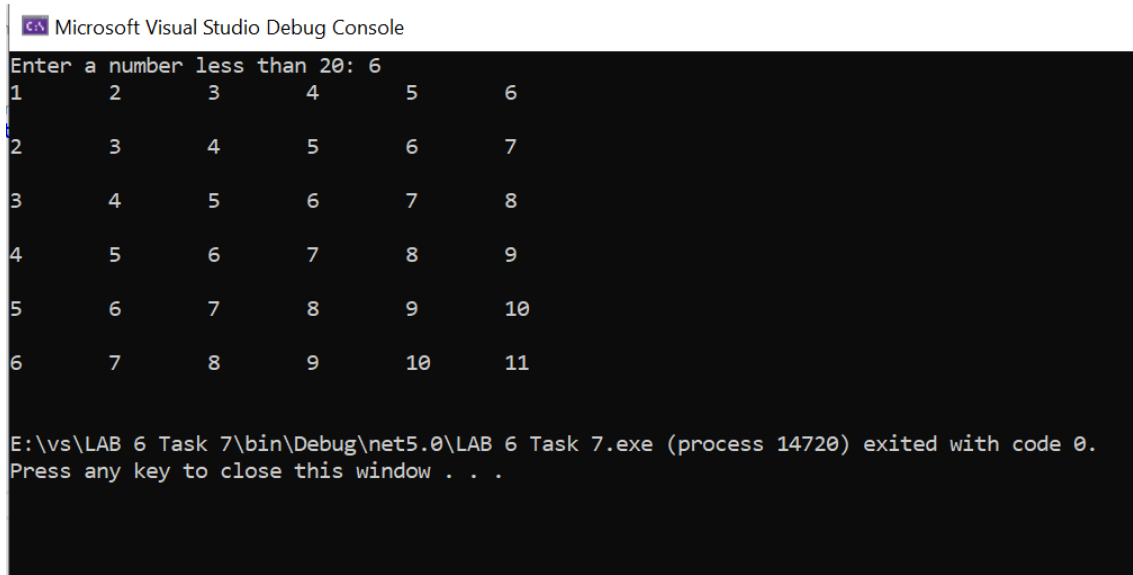
1	2	3	4
2	3	4	5
3	4	5	6
4	5	6	7

Solution:

```
using System;

namespace LAB_6_Task_7
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Enter a number less than 20: ");
            int N = int.Parse(Console.ReadLine());
            for (int row = 1; row <= N; row++)
            {
                for (int col = row; col <= (row - 1) + N; col++)
                {
                    Console.Write("{0}\t", col);
                }
                Console.WriteLine("\n");
            }
        }
    }
}
```

Output:



```
Microsoft Visual Studio Debug Console
Enter a number less than 20: 6
1      2      3      4      5      6
2      3      4      5      6      7
3      4      5      6      7      8
4      5      6      7      8      9
5      6      7      8      9      10
6      7      8      9      10     11

E:\vs\LAB 6 Task 7\bin\Debug\net5.0\LAB 6 Task 7.exe (process 14720) exited with code 0.
Press any key to close this window . . .
```