AIM: Console application : Basic Concept

1. Write a program to get integer, double, character and string values from the user and display it on the screen.

Program:

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

namespace ConsoleApp3
{
    internal class Practical_2_1_
    {
        static void Main(String[] args)
        {
            Console.WriteLine("Name : AMIT GOSWAMI");
            Console.WriteLine("Enrollment No. : 21012021003");
            Console.WriteLine("Enter the integer value");
            int a = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter the double value");
            double b = Convert.ToDouble(Console.ReadLine());
            Console.WriteLine("Enter the character");
            Char c = Convert.ToChar(Console.ReadLine());
            Console.WriteLine("Enter the string");
            String d = Console.ReadLine();
            Console.WriteLine("the int value is :" + a);
            Console.WriteLine("the double value is :" + b);
            Console.WriteLine("the char value is :" + c);
            Console.WriteLine("the string value is :" + d);
            Console.ReadKey();
        }
    }
}
```

Output:

```
Name : AMIT GOSWAMI
Enrollment No. : 21012021003
Enter the integer value
4
Enter the double value
4.6
Enter the character
A
Enter the string
Amit
the int value is :4
the double value is :4.6
the char value is :A
the string value is :Amit
```

2. Write a program to check whether the entered value is numeric or not. [Note: use try and catch.]

Program:

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

namespace ConsoleApp3
{
    internal class Practical_2_2_
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Name : AMIT GOSWAMI");
            Console.WriteLine("Enrollment No. : 21012021003");
            int a;
            Console.Write("Enter any value : ");

            try
            {
                a = Convert.ToInt32(Console.ReadLine());
                Console.WriteLine("It is integer-");
            }
            catch
            {
```

```
                Console.WriteLine("Entered value is not in INTE-
GER!!!");
            }
            Console.ReadKey();
        }
    }
}
```

Output:

```
Name : AMIT GOSWAMI
Enrollment No. : 21012021003
Enter any value : 34
It is integer-
```

```
Name : AMIT GOSWAMI
Enrollment No. : 21012021003
Enter any value : amit
Entered value is not in INTEGER!!!
```

3. Write a program to accept a number from the user and throw an exception if the number is not an even number.

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using static System.Net.Mime.MediaTypeNames;

namespace ConsoleApp3
{
    internal class Practical_2_3_
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Name :AMIT GOSWAMI");
            Console.WriteLine("Enrollment No. : 21012021003");
            int n, i;
            Console.WriteLine("Enter any number: ");
            n = Convert.ToInt32(Console.ReadLine());
            try
            {
```

```
                    i = n % 2;
                    if (i == 0)
                    {
                        Console.WriteLine("Number is even ");
                    }
                    else
                    {
                        throw new Exception("Number is odd.");
                    }
                }

catch (Exception e)
                {
                    Console.WriteLine(e);
                }
                Console.ReadKey();
            }
        }
}
```

Output:

```
Name :AMIT GOSWAMI
Enrollment No. : 21012021003
Enter any number:
3
System.Exception: Number is odd.
```

```
Name :AMIT GOSWAMI
Enrollment No. : 21012021003
Enter any number:
32
Number is even
```

4.Write a program to find whether the given year is leap year or not. (Leap year is evenly divisible by 4, but if it is evenly divisible by 100 then it is not a leap year, but if it is evenly divisible by 400, then it is a leap year)

Program:

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

```
namespace ConsoleApp3
{
    internal class Practical_2_4_
    {

        static void Main(string[] args)
        {
            int a;
            Console.WriteLine("Enter the year");
            a = Convert.ToInt32(Console.ReadLine());
            if (a % 4 == 0)
            {

                if (a % 100 == 0)
                {


                    if (a % 400 == 0)
                    {
                        Console.WriteLine("yes it is a leap year");

                    }
                    else
                    {
                        Console.WriteLine("no it is not a leap
year");

                    }
                }
                else
                {
                    Console.WriteLine("yes it is a leap year");

                }
            }
            else {
                Console.WriteLine("no it not a leap year");
            }
            Console.ReadKey();
        }

    }

}
```

Output:

```
Enter the year
2004
yes it is a leap year
```

5. Write a program to check whether the given number is perfect or not. A number is perfect if the sum of its divisor is the same as the number itself.

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using static System.Net.Mime.MediaTypeNames;

namespace ConsoleApp3
{
    internal class Practical_2_5_
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Name : AMIT GOSWAMI");
            Console.WriteLine("Enrollment No. : 21012021003");
            Console.WriteLine("Enter a Number :");
            int num = Convert.ToInt32(Console.ReadLine());
            int sum = 0;
            for (int i = 1; i < num; i++)
            {
                if (num % i == 0)
                {
                    sum = sum + i;
                }
            }
            if (sum == num)
            {
                Console.WriteLine("The Entered Number is Perfect
NUmber !!!");

            }
            else
            {
                Console.WriteLine("The Entered Number is not Per-
fect Number!!!");
            }
            Console.ReadKey();
```

```
        }
    }
}
```

Output:

```
Name : AMIT GOSWAMI
Enrollment No. : 21012021003
Enter a Number :
45
The Entered Number is not Perfect Number!!!
```

```
Name : AMIT GOSWAMI
Enrollment No. : 21012021003
Enter a Number :
28
The Entered Number is Perfect NUmber !!!
```

6. Write a program to check whether the given number is lucky or not. (A number is lucky if the number is itself a prime and the sum of digit of a number is also prime)

Program:

```
using System;
using System.Collections.Generic;
using System.Diagnostics.CodeAnalysis;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using static System.Net.Mime.MediaTypeNames;

namespace ConsoleApp3
{
    internal class Practical_2_6_
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Name : AMIT GOSWAMI");
            Console.WriteLine("Enrollment No. : 21012021003");
            int n, r, sum = 0, i;
            int temp = 0;
            Console.Write("Enter the number : ");
            n = Convert.ToInt32(Console.ReadLine());
```

```
            while (n > 0)
            {
                r = n % 10;
                sum = sum + r;
                n = n / 10;
            }
            Console.WriteLine("Sum of all digites : " + sum);
            for (i = 2; i < n; i++)
            {
                if (n % i == 0)
                {
                    Console.WriteLine("!! Entered number is NOT
LUCKY number!!");
                    temp = 1;

                break;
                }
            }
            for (i = 2; i < sum; i++)
            {
                if (sum % i == 0)
                {
                    Console.WriteLine("!! Entered number is NOT
LUCKY number!!");
                    temp = 1;
                    break;
                }
            }
            if (temp == 0)
            {
             Console.WriteLine("Entered number is LUCKY number .");
            }
            Console.ReadKey();
        }
    }
}
```

Output:

```
Name : AMIT GOSWAMI
Enrollment No. : 21012021003
Enter the number : 23
Sum of all digites : 5
Entered number is LUCKY number .
```

7. Write a program to generate Floyd's Triangle.

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using static System.Net.Mime.MediaTypeNames;

namespace ConsoleApp3
{
    internal class Practical_2_7_
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Name : AMIT GOSWAMI");
            Console.WriteLine("Enrollment No. : 21012021003");
            int n, i, j, k = 1;
            Console.Write("Enter number of row's : ");
            n = Convert.ToInt32(Console.ReadLine());
            for (i = 1; i <= n; i++)
            {
                for (j = 1; j < i + 1; j++)
                {
                    Console.Write(k++ + " ");
                }
                Console.Write("\n");

            }
            Console.ReadKey();
        }
    }
}
```

Output:

```
Name : AMIT GOSWAMI
Enrollment No. : 21012021003
Enter number of row's : 5
1
2 3
4 5 6
7 8 9 10
11 12 13 14 15
```

8. Write a program to replace a substring of given length with new substring. (Input: starting index and length of substring)

Program:

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

namespace ConsoleApp3
{
    internal class Practical_2_8_
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Name : AMIT GOSWAMI");
            Console.WriteLine("Enrollment No. : 21012021003");
            Console.WriteLine("Enter Original String :");
            string s1 = Console.ReadLine();
            Console.WriteLine("Enter the substring which you want
to replace with: ");
            string sub = Console.ReadLine();
            Console.WriteLine("Enter starting index :");
            int i1 = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter length :");
            int len = Convert.ToInt32(Console.ReadLine());
            string b = s1.Remove(i1, len);
            string final = b.Insert(i1, sub);
            Console.WriteLine("New String is : " + final);
            Console.ReadKey();
        }
    }
```

```
}
```

Output:

```
Name : AMIT GOSWAMI
Enrollment No. : 21012021003
Enter Original String :
Amit Goswami
Enter the substring which you want to replace with:
sumit
Enter starting index :
0
Enter length :
5
New String is : sumitGoswami
```