Lab 01

Operators and Conditionals

1- Write a program that takes a point (x,y) and checks if it is within the circle with center point (0,0) and radius r

```
class Program {
       static void Main(string[] args)
        {
            Console.WriteLine("Enter the radius of the circle");
            double r = double.Parse(Console.ReadLine());
            Console.WriteLine("Enter the X-coodinate of the point to be tested");
            double x = double.Parse(Console.ReadLine());
            Console.WriteLine("Enter the Y-coordinate of the point to be tested");
            double y = double.Parse(Console.ReadLine());
            double z = x * x + y * y;
            double rSquare = r * r;
            if (z <= rSquare)
            {
                Console.WriteLine("Point within the circle");
            }else
            {
                Console.WriteLine("Point outside the circle");
            }
        }
      }
```

2- Write a program that finds the sign of the product of three numbers without calculating the value of the product

```
 class Program {
      static void Main(string[] args)
        {
            int countNegativeNumbers = 0;
            bool zeroProduct = false;
            Console.WriteLine("Enter first number");
            int a = int.Parse(Console.ReadLine());
            if (a < 0)
            {
                countNegativeNumbers++;
            } else if (a == 0)
            {
                zeroProduct = true;
            }

            Console.WriteLine("Enter seconde number");
            int b = int.Parse(Console.ReadLine());
            if (b < 0)
            {
                countNegativeNumbers++;
            }else if (b ==0)
            {
                zeroProduct = true;
            }
            Console.WriteLine("Enter third number");
            int c = int.Parse(Console.ReadLine());
            if (c < 0)
            {
                countNegativeNumbers++;
            } else if (c == 0)
            {
                zeroProduct = true;
            }
            if (!zeroProduct)
            {
                if (countNegativeNumbers % 2 == 0)
                {
                    Console.WriteLine("The product of the three numbers is
positive");
                }
                else
                {
                    Console.WriteLine("The product of three numbers is negative");
                }

            }else
            {
                Console.WriteLine("The product is zero");
            }

        }
}
```

3- Write a program that takes a four-digit number and calculates the sum of its individual digits

```
class Program
{
    static void Main(string[] args)
    {
        Console.WriteLine("Enter a four-digit number");
        int num = int.Parse(Console.ReadLine());
        int a = num % 10;
        int b = (num / 10) % 10;
        int c = (num / 100) % 10;
        int d = (num / 1000) % 10;
        Console.WriteLine("Sum of digits is : {0}", a + b + c + d);
    }
}
```

4- A program that takes a numeric digit (0-9) and prints its English equivalent (Zero-Nine)

```
class Program
 {
     static void Main(string[] args)
     {
         Console.WriteLine("Please enter a number in the range of 0 to 9");
         int number = int.Parse(Console.ReadLine());
         switch (number) {
             case 0:
                 Console.WriteLine("Zero");
                 break;
             case 1:
                 Console.WriteLine("One");
                 break;
             case 2:
                 Console.WriteLine("Two");
                 break;
             case 3:
                 Console.WriteLine("Three");
                 break;
             case 4:
                 Console.WriteLine("Four");
                 break;
             case 5:
                 Console.WriteLine("Five");
                 break;
             case 6:
                 Console.WriteLine("Six");
                 break;
             case 7:
```

```
                    Console.WriteLine("Seven");
                    break;
                case 8:
                    Console.WriteLine("Eight");
                    break;
                case 9:
                    Console.WriteLine("Nine");
                    break;
                default:
                    Console.WriteLine("You didn't enter a valid number between 0
and 9");
                    break;



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

Assignment:

Write a program to:

1-Convert numbers 0-999 to English equivalent

2-Given a number n, find the value of bit at position p

Assignment solutions to be uploaded to your github account, then you should send the repo's link to: **khaled.3ttia@gmail.com**