

Lab 06

File Handling

1-Write a program that takes students info from user and write it to a csv file.

```
class Program
{
    static void Main(string[] args)
    {
        try
        {
            StreamWriter sw = new StreamWriter("student.csv",
true);
            Console.WriteLine("File opened/created successfully,
ready to input data");
            Console.WriteLine("Enter student name, type exit if
you want to stop");
            string name = Console.ReadLine();

            while (name != "exit")
            {
                Console.WriteLine("Enter student email:");
                string email = Console.ReadLine();
                Console.WriteLine("Enter student phone number");
                string phone = Console.ReadLine();
                sw.WriteLine(name + "," + email + "," + phone);
                Console.WriteLine("=====");
                Console.WriteLine("Enter student name, type exit
if you want to stop");
                name = Console.ReadLine();
            }
            sw.Close();
        }
    }
}
```

```
        catch (System.IO.IOException)
        {
            Console.WriteLine("File already in use, please close
if open in another program");
            return;
        }
    }
}
```

2-You have a file containing the following data

6:4
5:7
7:5
8:6
10:8
6:7
7:8

Where the values of the first column are X values and the values of the second column are Y values.
Write a program that takes the input from this file, and calculates the Pearson's Correlation Coefficient between X and Y

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

```
class Program
{
    static void Main(string[] args)
    {
        string[] lines = File.ReadAllLines("data.txt");

        int n = lines.Length;
        double[] x = new double[n];
        double[] y = new double[n];
        double[] xy = new double[n];
        double[] xSquare = new double[n];
        double[] ySquare = new double[n];
        double sumX=0, sumY=0, sumxSquare=0, sumySquare=0,
sumxy=0;
        for (int i=0; i< n; i++)
        {
            string[] line = lines[i].Split(':');
```

```
x[i] = double.Parse(line[0]);
sumX += x[i];
y[i] = double.Parse(line[1]);
sumY += y[i];

xy[i] = x[i] * y[i];
sumxy += xy[i];

xSquare[i] = Math.Pow(x[i], 2);
sumxSquare += xSquare[i];

ySquare[i] = Math.Pow(y[i], 2);
sumySquare += ySquare[i];
}
double r = ((n * sumxy) - (sumX * sumY)) / Math.Sqrt(((n
* sumxSquare) - Math.Pow(sumX, 2)) * ((n * sumySquare) -
Math.Pow(sumY, 2)));
Console.WriteLine("r is {0}", r);
}
}
```