```
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Text;
5  using System.IO;
6  using System.Threading.Tasks;
7
8  /*
9   *  Homework #4: Michael Banks
10  *  This program adds code to the main routine to compute the average for each column of the two dimensional array.
11  *  It also stores the average for each column in a one dimensional array and then print each number in the array.
12  */
13
14 namespace Homework4
15 {
16     class Program
17     {
18         static void Main(string[] args)
19         {
20             string fileName = "Lotto.txt";
21             if (File.Exists(fileName) == false)
22             {
23                 Console.WriteLine();
24                 Console.WriteLine("File does not exist");
25                 Console.Write("Press any key to continue ....");
26                 Console.ReadKey();
27                 return;
28             }
29
30             StreamReader fileReader = new StreamReader(fileName);
31             if (fileReader == null)
32             {
33                 Console.WriteLine();
34                 Console.WriteLine("Attempt to open file failed ");
35                 Console.Write("Press any key to continue ....");
36                 Console.ReadKey();
37                 return;
38             }
39
40             // each row contains 6 numbers where the last number is the mega ball
41             // this data is from actual winning numbers from Mega Millions
42             double[,] myArray = new double[35, 6];
43             string str = fileReader.ReadLine();
44             int numRows = 0;
45             while (str != null && numRows < myArray.GetLength(0))
46             {
47                 myArray[numRows, 0] = Convert.ToInt32(str);
48                 for (int col = 1; col < myArray.GetLength(1); col++)
49                     myArray[numRows, col] = Convert.ToInt32(fileReader.ReadLine());
50                 numRows++;
51                 str = fileReader.ReadLine();
52             }
53
54             // Add code to display the 2D array
55             for (int row = 0; row < myArray.GetLength(0); row++)
56             {
57                 for (int col = 0; col < myArray.GetLength(1); col++)
58                 {
59                     Console.Write(String.Format("{0} ", myArray[row,col]));
60                 }
61
62             Console.WriteLine("");
63             }
64
```

```
65
66              // Add code to create a one dimensional array
67              double[] myNewArray = new double[6];
68
69              // Compute the average of each column of the 2D array and store the result in the 1D array ↙
    just created
70              double holderSum = 0;
71
72              for (int row = 0; row < myArray.GetLength(0); row++)
73              {
74                  for (int col = 0; col < myArray.GetLength(1); col++)
75                  {
76                      holderSum += myArray[row, col];
77                      myNewArray[col] += holderSum;
78                  }

80                  holderSum = 0;
81              }
82
83              for (int col = 0; col < myNewArray.GetLength(0); col++)
84                  myNewArray[col] = myNewArray[col] / 35;
85              // 6 columns in the 2D array --> 6 averages to store in the 1D array
86              Console.WriteLine(Environment.NewLine);
87
88              // Add code to display the 1D array holding the averages
89              for (int col = 0; col < myNewArray.GetLength(0); col++)
90              {
91
92                  Console.WriteLine(myNewArray[col]);
93              }
94
95              Console.WriteLine(); Console.WriteLine();
96              Console.Write("Press any key to continue ....");
97              Console.ReadKey();
98          }
99      }
100
101 }
102
```

```
6 10 12 28 32 38
1 19 20 39 49 28
1 6 13 20 51 31
2 20 34 42 54 39
21 30 34 39 49 43
17 42 49 54 55 31
9 21 22 32 50 10
6 8 12 22 43 28
2 5 15 18 39 42
1 10 13 19 21 28
17 30 41 48 54 13
8 15 23 36 41 5
7 10 14 40 47 34
25 31 36 46 53 21
20 33 46 49 51 46
14 27 34 37 41 38
3 6 14 21 37 35
4 8 17 22 32 8
9 12 19 20 30 39
4 11 25 34 35 44
6 20 39 41 46 42
17 30 38 43 51 20
6 7 13 15 43 7
9 13 24 38 49 30
1 15 19 30 56 28
0 0 0 0 0 0
0 0 0 0 0 0
0 0 0 0 0 0
0 0 0 0 0 0
0 0 0 0 0 0
0 0 0 0 0 0
0 0 0 0 0 0
0 0 0 0 0 0
0 0 0 0 0 0
0 0 0 0 0 0


6.17142857142857
18.7142857142857
36.6
60.4
92.0857142857143
112.885714285714


Press any key to continue ....
```