

Problem 1:

Read in the following file. The file contains grades for a group of students. The first line of the file lists the name of each of the five assignments. The subsequent pairs of lines contain the name of the student (first and last name) and that student's grades on each of the five assignments. This file will contain at most 24 students.

Find the average grade for each student and print the result to the screen **and to the file results.txt**. Find the average grade on each assignment and print that to the screen and to the file **results.txt**

Input File:

```
Exam1 Exam2 Project1 Project2 Final
Joe Schmoe
99.0 98.0 89.5 77.5 66.0
Jane Air
73.0 85.0 77.5 89.5 89.0
Charlie Brown
62.0 84.0 83.0 77.0 88.5
```

Output (write to results.txt and to the screen):

```
Joe Schmoe: 86.0
Jane Air: 82.8
Charlie Brown: 78.9
```

```
Exam1: 78.0
Exam2: 89.0
Project1: 83.3
Project2: 81.3
Final: 81.2
```

Problem 2:

The file **pi100.txt** contains the first 100 digits of Pi, one per line. (You can find this file on Turing in **CS150-02 Public**) You need to write a program to read in the file, digit by digit, and determine how many times each digit (0-9) appears in the file. You need to display a numeric count as well as a histogram as shown below. Display the output to the screen **and to a file** called **pi100Counts.txt**.

Output:

DIGIT	COUNT	
0	8	*****
1	8	*****
2	12	*****
3	12	*****
4	10	*****
5	8	*****
6	9	*****
7	8	*****
8	12	*****
9	14	*****

The file **pi1000.txt** contains Pi to 1000 digits. Run your code using pi1000.txt as your input file. Your histogram will be too long to fit on the screen. Scale your histogram so that each * represents 10 occurrences of a digit. Display the output to the screen and to a file called **pi1000Counts.txt**.

Output:

DIGIT	COUNT	
0	93	*****
1	116	*****
2	103	*****
3	103	*****
4	93	*****
5	97	*****
6	94	*****
7	95	*****
8	101	*****
9	106	*****

pi100000.txt contains Pi to 100,000 digits. Enjoy!

You can find various digits of Pi here:
www.greatplay.net/uselessia/categories/p.html

