MATH 426 - Assignment 5

June 11, 2008

1 File Output

Recall the function `fact` you wrote in the previous assignment. Write a program that computes $n!$ for $n = 1, \ldots, 10$ and writes the results into the file `factorials.txt`. You will need to use `fopen` to open to file, `fprintf` to write the results to the file, and `fclose` to close the file when you are done. The output you write into the file should be as follows:

```
1! = 1
2! = 2
3! = 6
4! = 24
5! = 120
.
.
.
```

2 Structured output I

Recall the script `gradeReport1.m` we wrote in the lecture. Revise that script so that after reading that data and computing the averages, the following output is created.

```
Student # 1: average score = 90.00
Student # 2: average score = 90.00
Student # 3: average score = 91.00
.
.
.
```

Note: you will need to download the file `grades.txt` into your working folder.

3 Structured Output II - Printing Tables

Recall that in the lecture, we saw that `textread` provides a powerful way to read data from file. We saw that we can read all the file `grades.txt` using

```
[id test1 test2] = textread('grades.txt', '%s %f %f');
```

which stores the student id, test1 scores, test2 scores into the vectors `id, test1, test2`. Write a script `gradeReport2.m` that uses `textread` to read the data as above and then creates a table showing the following information for each student: student id, score for test1, score for test2, average score, and a letter grade (corresponding to the avergae score). Note that you will be using the function `score` from the previous class to get letter grades.

The output should look like the following:

```
Id    Test1  Test2  Average   Letter Grade
-----------------------------------------
0001  89.00  91.00  90.00      A
0002  92.00  88.00  90.00      A
0003  90.00  92.00  91.00      A
0004  77.00  82.00  79.50      C
.
.
.
```

Note: To use `fprintf` to print `id` to screen you first need to convert it to a character array using `char(id)`.