

EXAM 1 – COMPUTER PORTION

Put all of your code in one m-file and name it: `lastname_firstname.m` (all lower case).

Include your name, section number, and CM number in the header section of your code. There should be no output other than what is asked for.

Problem (60 pts)

Download the Excel spreadsheet named “rate.xls” from the course web page at <http://www.rose-hulman.edu/ME123/courseware.shtml>. The file contains one column of annual investment rates (as percentages) for the years 1993 through 2007 (15 years total).

Write a MATLAB code to:

- a) Read in the rate data stored in the Excel spreadsheet. Print the year and the rate for that year to a text file `lastname_firstname1.txt`, where `lastname` and `firstname` should be replaced by *your* last and first names, respectively. Do not forget to use the **fclose** command in your code. The first 3 lines of the text file should be:

```
Year      Rate (percent)
1993      11.28
1994      -0.06
..        ..
..        ..
```

- b) Assume you started with \$1000 in an investment account at the end of 1992. Use the annual investment rates provided, determine the balance in the account at the end of each year from 1992 through 2007, with no withdrawal. Print your end-of-year balances to the screen with the first 3 lines displaying the following format:

```
Year      Balance
1992      $1000.00
1993      $1112.80
..        ..
..        ..
```

- c) Plot the rates of return from 1993 to 2007 as a function of the year. Properly label both axes, and give your plot a title.

When you are done, post your m-file to the correct folder:

1. Double-click on “My Network Places”. If it is not on your desktop, look in your start menu.
2. Double-click on “[DFS] Root”. *Not [AFS] Root.*
3. Log in with your email address and password.
4. Double-click on Academic Affairs.
5. Double-click on ME.
6. Double-click on ME123.
7. Double-click on Exams.
8. Double-click on the folder with your section number.
9. Copy and paste your m-file to this folder.

NOTE: All programming must stop at 8:30pm. You will have a few minutes after that to post your file if you need that time.