EXAM 1 – Computer PORTION

Put all of your code in one script 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 requested.*

Problem (50 pts)

For this exam problem, we will work with the two files `Gold_no_Holidays.xls,` and `Silver_no_Holidays.xls` posted on the course website. They contain historical values for the price of gold per ounce and price of silver per ounce. The "date (decimal) " is in the first column of the spreadsheet and the other (U.S. dollar) values we want are in the second columns of the spreadsheets. (The "date (decimal)" is the year followed by the fraction we are through a year—February 2, 2005 is 2005.0849.)

a) (15 points) Download the data from the website. Load the data into Matlab. Plot the price of gold and price of silver on one graph. Add a legend, a title, and good axis labels (with units).

b) (15 points) Add code to your script to make a *new figure.* Assume that we bought a portfolio containing 50 ounces of silver and 11 ounces of gold on the first day. Plot the dollar value of that portfolio over the years. Add good labels and a good title. Remember to include units.

c) (10 points) Add code to your script to count the number of days the value of the portfolio is greater than $20,000. Print your result to the *command window* using the following words:

```
The portfolio value was above $20,000 dollars for xxx days.
```

Here `xxx` should be your result which is printed using a format (`%X.Xf`) and a variable. (That is, do not just look at the result and type it into the fprintf statement.)

d) (10 points) Add a dashed line to the plot on your second figure which shows a horizontal line at $20,000. (Hint: the equation of the line is y=mx+b with x as the dates, m=0, and b=20000.)

When you are done, put your script (`lastname_firstname.m`) in the Moodle assignment dropbox.

NOTE: All programming must stop 5 minutes before the end of the period. You will have five minutes after that to post your files to Moodle if you need that time.