CS100
Fall 2015
Lab 9

1. Assume you have two lists of grades of the students that should be merged to form a merged list and to take the average of grades. Although we are sure about the first list belongs to sections A and C, the second list may include some students from section A besides section B and D. The first list is formatted as "Name Midname Surname Grade" whereas the second list is formatted as "Name Surname Grade". Also note that, only a few students have middle names. We are sure that name and surname of the same student matches exactly in two lists.

   You can assume that these lists are given you as arrays. Please merge two lists of grades of the students to form the merged list and to calculate the average of grades to announce the average. Note that, this case is hypotethical. For more fun, you may apply a curve too ☺

2. Assume you are giving a dinner for your friends tonight, and your room mate who is a good cook have prepared a list of needed ingredients and their amounts. You also have a list of already available ingredients and their amounts. Now, you are in charge of finding missing ingredients and their amounts so that you may buy them. Names of the same ingredient in two lists match exactly with only one kind of exception: your friend sometimes added 's' or 'es' at the end for making the names plural.

   Examples of needed, available and buy lists are given as:

Needed	Available	Buy (calculated)
carrots 5 pieces	artichoke 1 piece	carrot 2 piece
artichoke 2 pieces	carrot 3 piece	artichoke 1 piece
tomatoes 2.5 kg	potato 1 kg	tomato 1.5 kg
puding 2 packages	tomato 1 kg	puding 2 package
milk 1 lt	milk 1 lt	

   As you can see, countable units may be either pieces or packages whereas uncountable goods may be either kg or lt. Notice also, things you don't need to buy are not listed.

3. Write a Matlab script file to plot three functions on one graph. Plot y = sin(x) in red, y = sin(2x) in black, and y = sin(3x) in green, with x ranging from −4 to 8.

4. Create a graph of y = cos 4x over [0, π]. To illustrate what happens when there are too few points in your domain, first try a step size of π/10 (pi/10).

5. Plot the function $f(x) = e^{\cos(x)}$ over the interval [0,2π].