0. Make sure the homeworks are finished

The following 4 questions ask you to write a function to calculate an average based on a list of individual scores.

1. Write a function \texttt{avg(grades)} where \texttt{grades} is a list of grades of some arbitrary length. The function returns the regular numerical average (mean).

2. Write a function \texttt{avg(grades)} where \texttt{n} is a list of grades of some arbitrary length. The function returns the average after the lowest grade is dropped.

3. Write a function \texttt{avg(x)} where \texttt{x} is a list of grades of length three. Calculate and return the weighted average where the highest grade counts 50%, the lowest grade 10% and the other 40%.

4. Write a function \texttt{avg(grades,weights)} to calculate and return a weighted average. “grades” is a list of grades of some arbitrary length and weights is a list of floating point numbers such that weight[i] is the percentage with grade[i] in the weighted average.

5. Write a function \texttt{random_list(size,from,to)} that creates and returns a list of size “size” containing random integers in the [from,to].

6. Write a function \texttt{random_list(size,from,to)} that creates and returns a list of size “size” containing \texttt{unique} random integers in the [from,to].

7. Write a function \texttt{mysort(x)} that sorts a list of integers from smallest to largest. You \texttt{cannot} use the built-in sort function!

8. Write a function \texttt{mysort(x)} that sorts a list of integers from largest to smallest. You \texttt{cannot} use the built-in sort function!
9. Write a function `getmax(x,i)` #x is a list and i is an integer

which will find and return the maximum element among the first i elements of list x.

getmax() will return two values:

- the maximum element found, and
- the position in list x where that element was found.

For example, say a=[4,2,7,1,45,23], then getmax(a,4) will search for the maximum element in the first 4 element of list a.

So, in this case it will look at the following numbers: 2,4,7,1, and getmax(a,4) will return 7,2. This is because in the first 4 elements, the largest is 7 and it is in position 2.

If we ran getmax(a,6) the function will return 45,4