Wiki - Practice exercises for lists

Solve each of the practice exercises below. Each problem includes two CodeSkulptor links; one for a template that you should use as a starting point for your solution and our solution to the exercise.

1. Create a list that contains first 6 prime numbers in ascending order. (This list should be created manually.) Print out the 2nd, 4th, and 6th numbers in this list.

   Prime list template
   Prime list solution

2. Given the list a in the template, make a new reference b to a. Update the first entry in b to be zero. What happened to the first entry in a? Explain your answer (in a comment).

   List reference template
   List reference solution

3. Given the list a in the template, make a new copy b of the list a using the function list. Update the first entry in b to be zero. What happened to the first entry in a? Explain your answer (in a comment).

   List copy template
   List copy solution

4. Write a function `add_vector(v, w)` that takes two 2D vectors v and w (represented as lists) and returns a new 2D vector (represented as a list) that is the sum of the two vectors. Remember that vector addition is performed independently on each corresponding element of the lists. Hint: returning v + w does **not** work.

   Vector addition template
   Vector addition solution

5. **Challenge:** The program template below is a program designed to run two independent timers with their own start and stop buttons. In particular, each timer should be controlled by its own buttons independent of the other timer's buttons. The current version has an error that causes both timers to work in unison. Find and fix this error.

   Debugging test template
   Debugging test solution