COMP 4030/6030: Assignment 1
Due date: 02/07/2016

1. Write a Python function that takes as input a list L and returns a list that is the reverse of L.

2. A palindrome is a string that is the same as its reverse. For example, "abba" is a palindrome. Write a Python function that returns true if its input, which is a string, is a palindrome.

3. Find the tightest O complexity of the following functions:

   - $T(n) = 5n^3 + 1$
   - $T(n) = 10n + 3n^2 + 10$

4. What is the running time complexity in terms of O of the following functions:

```
# L is a list of numbers
def foo(L):
    sum = 0
    for x in L:
        sum += x*x
    return sum
```

5. What is the running time complexity in terms of O of the following functions:

```
# L is a list of numbers
def bar(L):
    sum = 0
    for x in L:
        for y in L
            sum += x*x + y*y
    for z in L+L:
        sum += z*z*z
    return sum
```