CS 101 Computer Science I (Spring 2001)
Lab 5: February 21-23, 2001

1. Write a Scheme procedure called "**sum-evens**". This procedure will take as input a list of numbers called "**lst**". The procedure will return the sum of all the even numbers on **lst**. Numbers that appear more than once on **lst** will contribute more than once to the answer.

```
(sum-evens '())                          ==> 0
(sum-evens '(1 2 3 4 5 6 7 8 9))         ==> 20
(sum-evens '(3 6 9 7 4 2 2))             ==> 14
```

   a. Write one version of this procedure using flat recursion.
   b. Write another version of this procedure using the accumulator method.

2. Write a Scheme procedure called "**list-between**". This procedure will take as input a list of numbers called "**lst**". It will also take as input two particular numbers called "**low**" and "**high**". The procedure will return a list of all the numbers in **lst** that are greater than or equal to **low** and less than or equal to **high**. The order of the members of the returned list does not matter; however, each number appearing on the returned list should appear the same number of times as it occurs in the input list.

```
(list-between '() 7 9)                    ==> ()
(list-between '(1 2 3 4 5 6 7 8 9) 4 7)   ==> (4 5 6 7)
(list-between '(3 1 9 7 4 2 2) 2 6)       ==> (3 4 2 2)
```

   a. Write one version of this procedure using flat recursion.
   b. Write another version of this procedure using the accumulator method.