

91.301, Organization of Programming Languages  
Prof. Yanco  
Spring 2007

## **Problem Set 2: Higher Order Procedures**

Out: Tuesday, 30 January 2007

Due: Thursday, 8 February 2007

Reading: Text (SICP 2nd Edition by Abelson & Sussman): Sections 1.2 and 1.3

### ***Overview***

This problem set deals with higher order procedures. We will also look into recursion and iteration as means to describe processes and write code to create them.

### ***What to turn in***

Keep one answers buffer for your problem set. Put the code for each problem sequentially in this buffer. Put the problem number in a comment before the code for that problem (use a semi-colon to make a line a comment). Underneath the code for each problem, cut and paste the appropriate sample runs. You can put semi-colons before each line of the sample runs, which will comment them out and allow you to load the entire buffer in another session.

Print the answers buffer and turn it in during the class on the due date. Also submit an electronic version on mercury by typing `submit holly 301-ps2 ps2-ans.ss` (assuming that your answer file is named `ps2-ans.ss`).

### ***Problems***

*Problem 1:* Exercise 1.9 on p. 36.

*Problem 2:* Exercise 1.11 on p. 42.

*Problem 3:* Exercise 1.16 on p. 46.

*Problem 4:* Exercise 1.17 on p. 46-47.

*Problem 5:* Exercise 1.20 on p. 49.

*Problem 6:* Exercise 1.30 on p. 60.

*Problem 7:* Exercise 1.31 on p. 60–61, except for the approximation of  $\pi$ .

*Problem 8:* Exercise 1.32 on p. 61.

*Problem 9:* Exercise 1.33 on p. 61.

*Problem 10:* Exercise 1.34 on p. 66.