

CIS 130 - Intro to Programming
Week 3 Lab - Wednesday, 01-31-07
Week 3 Lab Exercise

Purpose: get practice with named constants, get practice with the design recipe for functions

YOU MAY WORK IN PAIRS FOR THIS LAB. Make sure you understand how to do these actions on your own, also, so you'll be ready to do so for HW #2 (and beyond). One member of the pair should type ("drive") while the other says what to type ("navigates"); switch roles about halfway through.

1. Create a file named **lab02.py** using pico on cs-server. In a Python comment at the beginning of this file (a line starting with #), put your name (or your names, if working as a pair).
2. (Adapted from a problem by Susan Barocas) Develop the following, and then type them into **lab02.py**:
 - (a) Write a **contract** (as a Python comment) for a function that finds the number of inches in a given number of feet. All you need to do is write the contract -- that's it!
 - (b) Write a **contract** and a **header** for a function that determines the gas consumption (miles per gallon) given the gallons of gas used and how many miles were traveled. Remember, you are JUST to write the contract and the header for this one.
 - (c) Write the **contract**, **header**, and **purpose statement** for a function that computes the volume of a rectangular tank.
 - (d) Write a **contract**, **header**, **purpose statement**, and **two examples** for a function that expects five quiz grades for a student and returns the quiz average.
 - (e) Write a **contract**, **header**, **purpose statement**, **two examples**, and a **body** for a function that expects the amount that a family spends on groceries each week; it computes and returns the amount that that family would spend on groceries in a year, based on its weekly groceries' spending. For this problem, also include an appropriate named constant before the function body (between the examples comment and the body).

When you are done, write your name on the **NEXT** list on the board. (You write your name on this list if you have questions along the way, and when you are done; I'll then work my way down the list.) You need to complete the above and have it checked by the end of lab.