

CS 161 Midterm Review Guide

Vocabulary

ASCII Code	Expression	Program
Assembly Language	Identifier	Program syntax
Assignment	Input Unit	RAM
Binary Code	Interpreting	Register
Comment	Literal	Sequence, selection, iteration
Compiling	Machine Language	Variables
CPU	Mass Storage	
Data type	Output Unit	

General Objectives

- Given a diagram of a basic computer, label the components.
- Describe how information is represented for computers.
- Discuss why binary code is used for computer data and instructions.
- Describe different types of programming languages and their relative advantages and disadvantages.
- Discuss the different ways of translating source programs (text files) into machine language.
- Describe the difference between *literal* and *variable* data.
- Construct assignment, input and output statements.
- Given a series of statements that modify the values of variables, state the value of the variables after the statements have been carried out.
- Describe different data types for storing numeric information and identify appropriate uses for them.
- Evaluate simple expressions.
- Show the lists returned by various **range** function calls.
- Formulate **for** structures to perform simple counter-controlled looping (iteration).
- Construct **if** structures to solve simple problems.
- Interpret **if**, **for**, and **while** structures.
- Identify and correct errors in **if**, **for**, and **while** structures.
- Interpret Python code that includes sentinel-controlled iteration.
- Recognize when to use sentinel controlled instead of counter-controlled iteration.
- Construct **while** structures to implement sentinel-controlled iteration.

Sample Problems

Many people who work in sales are paid a base salary plus a commission—a percentage of their sales. Write the code to compute pay for a sales representative who is paid \$350 a week plus four percent of sales, and an extra commission of five percent of sales over 10000.

Problems from book: Page 227, problem 2; Page 261, Discussion Questions 1 & 3.

Re-examine the problems for Exercise Two and Program Two.

Study and understand program examples included in the reading.

Practice identifying syntax and logic errors *without* using a computer (*a la* Exercise 4).