

Homework Three

Introduction to Computer Science

Due Friday, January 19, 2007.

1. Write a program that meets the following specifications. This is the program that we messed with in class on Wednesday the 11th. In addition to me looking over the code, I will pair you up and you will critique someone else's code and someone else will critique your code. This critique isn't designed to be a big deal—I just want you to experience reading someone else's code and vice versa.
 - (a) Write a program that has the user guess an integer between 1 and 100. (For now, the number will be fixed in the program. I.e., it will have to be the same number every time.)
 - (b) The user is prompted for a guess, and then is told if the answer is correct, too high, or too low.
 - (c) The program keeps track of the number of guesses, and when the user finally gets the correct answer, he or she is told how many guesses it took.
 - (d) The user only has ten guesses. If, after the tenth guess he or she still hasn't guessed correctly, the program should tell the user that her or his guesses are up and then exit.
 - (e) If the user enters a number less than one or greater than 100, an error message should be given, and the user should be allowed to guess again.
 - (f) Write the program in such a way that the range of numbers from which the user must guess can be easily modified. I.e., so that if later you had to change the program so that the numbers were between 4 and 52, this change would be easy to implement. It should also be easy to change the maximum number of guesses.
2. Write a program that counts up from 0 to 112 by 7's. I.e., the code should output 0, 7, 14, 21, . . . 105, 112. Write this program two ways:
 - (a) Use a `for` loop.
 - (b) Use a `while` loop.
3. Programming exercise 12, Chapter 3.
4. Write a program that asks the user to choose from several different statements. Depending on the statement that the user chooses, have the program respond with a statement about how good a fit for COA he or she is. (Feel free to do some variant on this if you want. Basically, I just want you to practice using a simple `switch` statement.)