Name: _____

# APCS Problem Set 1: Basics of Computing

## 3.4 Book Questions

5. Ch. 1, #16: Be sure to show sample tic-tac-toe games and the way in which you'd encode that game's state (or the arrangement of `X`s and `O`s). *Hint: Imagine that you were going to take a mental snapshot of a tic-tac-toe game you see. What information would you have to record in order to recreate that exact setup again later? How could you use a string/sequence of* `0`*s and* `1`*s to "save" that information?* (10pts)

### 4.2 Software Life Cycle

Litvin §2.1 has a bulleted list of tasks involved in software development, which represent the *software life cycle*. Take that list and present it here as a flowchart, where each box is one of the steps Litvin mentions. Using arrows, connect each box to the box or boxes that represent the next logical step(s) in the process. (6pts)

### 5.1 How old were you then?

Teacher's initials: _____ (15pts)

### 5.2 Simple Math

In the space below, write code that answers Ch. 2, #11. Note that you should write the program on a computer, first, before writing anything below. That will help you to correct errors that might otherwise prevent your program from working.

***** IMPORTANT *****
You will need to save your source code your GitHub repository! You will be instructed in class how to initially push your `ps01` project to GitHub. Once pushed, you'll be able to update your uploaded solution from school or home until the problem set due date.

When writing code by hand — as you'll need to do on the AP exam — make sure you write neatly and show proper indentation. Points will be deducted for hard-to-read responses. (10pts)

## 7 Submission & Affirmation of Academic Honesty

Complete this problem set on (or before) the due date mentioned in §1.3. All work – typed and handwritten – must should be *neat*. Remember, spelling and grammar are considered during the grading process!

You should recall the section in the course syllabus titled *Academic Honesty*. If you have complied with the guidelines set forth there, please complete the portion of the paper form corresponding to this section of the problem set.

> *"I hereby certify that I have upheld the guidelines for* Academic Honesty *for this course. All work presented here, in written form, and in my APCS locker, in file form, is my own. Students with whom I worked and/or consulted for help are listed below."*

Students with whom you worked:

Name: _____ Date: _____

Signature: _____