All students should read §1.1 of the textbook in preparation for the next lecture.

The following numbered questions should be split across your group and the solutions discussed during the next lecture period. Students should review the learning goals for the day, determine which are applicable to their questions and provide answers or commentary to their group members. When using the Internet to formulate answers (some questions may require this), keep track of **where** you find your information on the web. You may be asked for, and are expected to have (in Email-able form), URLs supporting your investigations.

Warning: despite what you might think (or want) the second part of each question **is not** asking you to write a line of code. So don't.

1. (a) Answer question 1.1.1 (§1.1.6)

   (b) Consider a simulation for a standard game of Blackjack between two players. Each player uses a different strategy to determine when to stand, hit, double down, and the like. The simulation should determine which strategy is the long-term winner. Document your thoughts for an appropriate conceptual model, specification model,validation testing plan, as well as any consistency checks your simulation would have.

2. (a) Answer question 1.1.2 (§1.1.6); also: does this mean the simulation is incomplete?

   (b) Consider a simulation to determine the average time for a bus to run its entire route, where there are multiple passenger stops as well as traffic signals along the route. Document your thoughts for an appropriate conceptual model, specification model,validation testing plan, as well as any consistency checks your simulation would have.

3. (a) Answer question 1.1.3 (§1.1.6). If you are feeling particularly energetic you could go to Arthur Lakes and actually **find books**. But you are also permitted to use our friend the Internet, which also means you have to actually **seek out** four — because we all know the great WikiPedia has a definition so that's a bit of a gimmee.

   (b) Consider a billiard table simulation that predicts where the cue ball will stop after any particular shot with an arbitrary number of other (solid, striped) balls on the table. Document your thoughts for an appropriate conceptual model, specification model,validation testing plan, as well as any consistency checks your simulation would have.

4. (a) Answer question 1.1.4 (§1.1.6). Hint: try "simulation frameworks".

   (b) Consider a simulation to measure the response time of a webserver to a valid HTTP request. Document your thoughts for an appropriate conceptual model, specification model,validation testing plan, as well as any consistency checks your simulation would have.