

This assignment is due at 2:45 PM, Tuesday, Sept. 11. You should work with a partner to complete problem 1 of this assignment but it should be a thoroughly collaborative effort. Do not partition the work! You may confer with your partner on problem 2 but each of you must complete the tutorial.

1) Consider the following “Sudoku play game use case.”

1. Valid sudoku grid appears
2. Player selects number in [1,9]
3. Player selects empty cell in Sudoku grid
 - 3a. Player selects non-empty cell: error, return to step 2
4. Number is consistent: number appears in cell
 - 3a. Number is inconsistent: error
5. return to step 2

You are going to develop a preliminary design for this use case in the following steps.

- a. Identify the nouns in the use case.
- b. Identify any implicit nouns that are key to the use case.
- c. What are the verbs in the use case?
- d. Draw an initial design using your nouns as boxes and verbs on links.
- e. Identify each design class (box) as part of the model, view, or controller. Does your preliminary design obey MVC principles? (There is no reason it should at this point.)
- f. Elaborate each step of the use case in terms of responsibilities.
- g. Identify responsibilities that clearly belong to the model, to the view, and to the controller.
- h. Assign those responsibilities to your design classes.
- i. Draw a sequence diagram; does your design realize the use case and obey MVC principles? Revise/augment your design as needed.
- j. Determine which design classes are attributes of other classes.
- k. Develop a final high-level design that includes key classes, as well as their attributes and key actions. (You do not need to specify data types, method arguments, etc. at this point.)

2) Modify your design to accommodate the following use case:

- a. Erase number
- b. Show all invalid
- c. Hint

(Add one at a time, in the order given. Show your design after each step.)

- 2) Complete the online tutorial at
http://www.cs.hmc.edu/courses/2012/fall/cs121_1/tutorials/tutorial2.pdf

(You will demo your result in class on Tuesday.)

- 3) Read pages 1-70 of Apple's interface guidelines available at
<http://www.cs.hmc.edu/courses/2012/fall/cs121s1/hw/hig.pdf>