

CSE 142 Homework 1 Wi 04  
Sample Solutions

Almost all of these questions are very open to interpretation. Use your judgement whether the students understood the point of the question.

1)

a) A human.

b) Possible algorithm for selecting courses:

- Sort all available courses in order of interest
- While the schedule is not full:
  - Select the top course on the list and remove it
  - Remove all courses which conflict with it

c) A course can be represented by its title (eg. CSE 142) and its meeting times.

Prerequisites could also be maintained, if you want a more accurate algorithm.

d) A new Course with title "CSE 142", meeting at 9:30-10:20 MWF, with an empty list of prerequisites.

2)

a)

- Enter the plane at the front
- While you are still looking:
  - Look at the row number to your right
  - If it is equal to the row number on your ticket:
    - If the seat letter on your ticket is to your right, sit in the seat designated by the diagram above the seats.
    - Else, sit in the seat on the left designated by the diagram above the seats.
  - Else, move to the next row.

b)

- Walk as far forward as possible
- While you are still looking:
  - If there are available seats in the current row, move to a seat and sit down
  - Else move one row backward
- If you have not found a seat, walk as far forward as possible and stand

3)

a) Assumes standing is allowed, and that you can see whether there are any open seats in a full row. If standing is not allowed, you might not find a place where you can stay. If you can't see all open seats, you might end up unnecessarily standing.

b) It would fail if all seats are taken and there is no standing room.

c) It would be less than optimal if you were with friends and found only a single seat available in a row.

4)

a) Airplane (getSpeed, getLocation), Airport (availableRunways, assignRunway)

b) Word (addLetter, getPossibleCompletions), Dictionary (getWordsWithPrefix, addWord)

c) Translator (translateToEnglish, translateToFrench), FrenchEnglishDictionary (translateWord, addTranslation)

5) A small window with a gray background appears, with the words "Hello World!" written in red, centered in the window.