Homework#4 (Due : June 12th)

- Deadline : June 12th, 11:59pm
- Where to submit : eClass (http://eclass.cau.ac.kr)
- How to submit :
    - Create a folder. The name of the folder should be "studentID#.hw4".
      (ex) 20111499.hw4
    - We have one problem in hw4. Make four C source files. The name of the source file should be the format "studentID#.hw4.#.c"
        - ex) 20111499.hw4.1.c

    - In each source file .c, your code must have comments that include your name and student_id#
    - put the three source files into the folder we created.
    - Compress the folder into a zip file using WinZip (Don't use ALzip). The name of the zip file should be "student#.hw4.zip". (ex) 20111499.hw4.zip
    - Upload the zip file into eClass website.
    - If you don't follow above instructions, you may get penalty in your score.
    - **You must do programming yourself.**

Prob1.[Airline Ticket] A small airline has just purchased a computer for its new automated reservations system. You have been asked to program the new system. You are to write a program to assign seats on each flight of the airline's only plane. (capacity : N seats)

Your program should first ask the capacity and get N as an input. Your program should display the following menu of alternatives - Please type 1 for "First Class" and Please type 2 for "Economy Class". If the person types 1, your program should randomly assign a seat in the first class section (seats# 1 ~ seats# N/2). If the person types 2, your program should randomly assign a seat in the economy section (seats# N/2+1 ~ seats# N). Your program should print a boarding pass indicating the person's seat number and whether it is in the first class or economy section of the plane.

Use a one-dimensional array with dynamic allocation to represent the seating chart of the plane. Initialize all the elements of the array to 0 to indicate that all seats are empty. As each seat is assigned, set the corresponding elements of the array to 1 to indicate that the seat is no longer available.

Your program should, of course, never assign a seat that has already been assigned. When the first class section is full, your program should ask the person if it is acceptable to be placed in the economy section (and vice versa). If "yes", then make the appropriate seat assignment. If "no", then print the message "Next flight leaves in 3 hours".

(example)
> prob4.exe
get N ? 4
Please type 1 for "First Class" and Please type 2 for "Economy Class" ? 2
Boarding Pass : seat# - 4 (Economy Class)
Please type 1 for "First Class" and Please type 2 for "Economy Class" ? 2
Boarding Pass : seat# - 3 (Economy Class)
Please type 1 for "First Class" and Please type 2 for "Economy Class" ? 1
Boarding Pass : seat# - 1 (First Class)
Please type 1 for "First Class" and Please type 2 for "Economy Class" ? 2
"Economy Class" seats are full. Is "First Class" seat OK? yes
Boarding Pass : seat# - 2 (First Class)