High School Programming Competition
Saint Anselm College, Saturday, April 9, 2011 @9:00-11:00 AM

Contest Problems

Problem 1.

Inspired from Yahtzee: Enter the output of rolling 6 dice.
Program should stop only if you have *at least* one pair and print "Thank you." Otherwise the program asks you again to enter 6 integers (1-6). You do not need to check if the integers are between 1-6.
  Example:
        Yahtzee 6 roll?: 3 4 5 1 2 6   // no pair
        Yahtzee 6 roll?: 3 4 3 5 6 2   // 1 pair program stops!
        Thank you.
OBS. Program stops also for: 2 3 3 4 5 4   // 2 pairs (3,3) (4,4)

Problem 2.

Hide Word.
Each time you run the program the word "**LOVE**" displays randomly in a different line or column in a 4 x 4 matrix with *.
Example: (each time you run the program solution should be random)

```
        L * * *
        O * * *
        V * * *
        E * * *
```

Or:
```
        L O V E
        * * * *
        * * * *
        * * * *
```

Problem 3.

Generate combinations C(n,3). Enter an integer n. Then print all the possible combinations of 1.. n in triplets without repetition, also without repeating them, that is if you have printed 1 2 4 you will not print 2 1 4 or 4 1 2..
Example:
      Enter n? 4
      1. 1 2 3
      2. 1 2 4
      3. 1 3 4
      4. 2 3 4

Problem 4.

Erase extra blanks. Enter a sentence that has more than one blank between words. Your program is supposed to erase all extra blanks and leave just one blank instead.
Example:
    Enter sentence? I am   very happy.
    Extra blanks erased:
    I am very happy.

Problem 5.

Balanced parenthesis check. The program asks for a list from the user and checks if the parenthesis are correct. The list should start with a parenthesis always. The program keeps asking till you input a correct list.
Example:
    Enter list (q for quit)? ((a n)(i))) 8)
    Incorrect
    Enter list (q for quit)? ((a n)(i 8)) b
    Incorrect
    Enter list (q for quit)? ((a n) (i 8) 8)
    Correct