CS 1301 - Homework 04

Due before September 18, 5pm on Vista (WebCT). You may only submit your work once.

Chapter 3 Problem

1. **Fun.java** – The user will be presented with three statements and will respond either true or false for each one:

   You like comedy shows (true or false).
   You like parties (true or false).
   You like to sing in public (true or false).

   You will use the responses to give the person a "fun rating". If the person likes comedy, parties, and singing, then they will be rated, "super fun". If they like any two of the items or just singing, then they will be rated, "very fun". If they like only one of the items (except singing), then they will be rated, "fun". If they like none of the items, they will be rated, "not fun." Display the rating.

Chapter 4 Problems

2. **Students.java** – The user will be prompted to enter two test scores and a name until a test score of -1 is read. The highest average and the corresponding name should be displayed.

3. **Binary.java** – The user will be prompted to type in four binary digits representing a 4-digit binary number until the sum of the entries exceeds 50. Display the sum and the number of binary numbers entered.

   For instance, if the user input: 1,0,0,1 then 0,1,1,0 then 1,0,1,0 then 1,1,1,1 then 1,1,1,0, the program would display:

   5 numbers entered
   sum = 54.

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4. **Interest.java** – The user enters an amount of a loan (called the *principle*). The loan will be paid back $100 a month until it is paid off. Interest accrues on the principle at an annual rate of 12%, compounded monthly (thus, monthly interest rate of 1%). Display the number of months required to payback the loan, the final payment, the total interest, and the total paid. If at any time the principle falls below $100, then include that additional amount onto the $100 to complete the loan.

Input:

300

Computations:

Principle: 300
Interest (Month 1): 300*0.01=3
New Principle: 303
Payment: 100
New Principle: 203
Interest (Month 2): 203*0.01=2.03
New Principle: 205.03
Payment: 100
New Principle: 105.03
Interest: 105.03*0.01=1.05
New Principle: 106.08
Payment: 106.08
New Principle: 0

Output:

Total Months: 3
Final Payment: 106.08
Total Interest: 6.08
Total Payments: 306.08