

## Lab 9      Class and Objects (2)

### Question-1. File I/O

Write a program to **read** the information of students in the given txt file “lab09.txt” and **write** the students’ info into a txt file called “lab09\_output.txt” respectively. Number of students is given on the first line. Each student info record is stored in one single line (starting from 2nd line). Name is delimited by comma ',' followed by a space char, and then the student id number, then telephone number.

**Note:** You only need to check your program locally. There are no E-QUIZ test cases.

### Expected Outcomes (In the output file):

```
Student 1:
Name: XXX
Student ID: XXXX
Tel: XXX

Student 2:
Name: XXX
Student ID: XXXX
Tel: XXX

Student 3:
Name: XXX
Student ID: XXXX
Tel: XXX

Student 4:
Name: XXX
Student ID: XXXX
Tel: XXX

...
```

Question-2. Class and Objects

[Will be marked. Your solution needs to pass ALL the E-QUIZ test cases of this question to get the mark for this lab; Otherwise, there is no mark for this lab.]

Question 2 continues to work on the same class called “Candy” in Lab8 Question 2. You should define a function to overload operator “+” and a function to overload operator “<<” as per the following requirements.

1. The “Candy” class contains three members, ‘name’ of type string, ‘price’ of type double, ‘amount’ of type int.
2. A default constructor (i.e. Candy()) to initialize the information for Candy. The default name is “”, default price is 0, default amount is 0.
3. A parameter constructor (i.e. Candy(string, double, int)) is used to initialize the information for “Candy”.
4. An overloaded operator+ function is used to define how to add two classes. In this function, the new name is defined as the name of two classes connected with ‘-’. The new price is defined as the average price of two classes. The new amount is defined as the sum of two amounts in two classes. The ‘this’ pointer should be used in the function.
5. An overloaded operator<< function is used to define how to print three members in the class “Candy”. The output format is shown in the example below.
6. In the main function, users should type in the information of ‘c1’ and ‘c2’. Then, you sum ‘c1’ and ‘c2’ with this overloaded operator (+). This object is named ‘c3’. Finally, you should print ‘c3’ as the output.

Expected Outputs

<i>Example 1</i>
Enter name: <u>strawberry</u> Enter price: <u>12</u> Enter amount: <u>20</u>  Enter name: <u>chocolate</u> Enter price: <u>16</u> Enter amount: <u>20</u>  c3: name-strawberry-chocolate; price-14; amount-40