**Advanced Class Problems**

**Problem 0.**

Fun with strings: Write a **String** class with all the string functions that are given below.

The class should accept user input and based on the option ID it should give output.

The string operations/methods include:

Uppercase, Lowercase, string reverse, count alphabets.

Ex:

>> string\_input, options: 1(Uppercase) 2 (Lowercase) 3(string reverse) 4(count alphabets

>> hello world 1

Output : ‘HELLO WORLD’

>> Hello World 2

Output : ‘’hello world’

**Problem 1.**

Design a class **ScientificCalc** which includes most of the operations found on the Scientific Calculator. The program must accept Real Numbers as user input and give the calculated output.

**Problem 2.**

Design a class **Exam** that has the student name with his respective subject marks. Divide the subjects into two semesters and assign marks accordingly, then create a function final\_score to calculate both semester marks together.

**Problem 3.**

Design a class **ENotice** board, where users can put up important notes and other users can view, add, delete, modify the notes. Once the changes are done to the new note it should automatically get updated and should show the latest version with the user name (who has done changes)

Implementation

Define an e-notice class, that includes.  
 postNote (userID , postID)

UpdateNote (userID)

ModifyNote()

DeleteNote()

getUpdate

**Problem 5.**

Design an inventory management system for a cosmetic brand, the class must include

check\_item\_type

check\_item\_count

total\_count

add\_item.

Example : If a shampoo bottle, is added by the user then the function check\_item\_type must check it and add it to the appropriate list.

So in the shampoo list we need to update total\_count and use add\_item to do so.