**Lab Sheet - I**

**Question:** WAP in C++/JAVA for the following scenarios.

**Scenarios I:**

You need to store information for bank accounts. Assume that you only need to store the current balance and the total number of transactions for each account and an account no. The code should contain following functionalities for an account:

**Constructor:** Initialize a new account

**void Withdraw(float amt):** Subtract the amt to the balance and increment the number of transactions

**float Balance():** return the current balance

**void Display():** print out the account monthly summary

Now assume that there are two types of accounts:

Type A: deposit and withdraw just affect the balance. At the end of each month there is a Rs 50/- monthly fee which counts as a normal withdrawal transaction fee is deducted from the balance.

Type B: Each withdrawal generates a Rs 10/- fee.

You have an accounts manager class which keeps track of all the accounts in the bank. It responds to the following messages:

**Void addaccount( account a):** Adds a new account

**Void Withdrawlfromaccount(double amt, int accno):** Searches for the account with the given accountno and withdraws amt from that account;

**Void printallbalance():** Prints the accountno, balance, no of transactions of all accounts present in the bank manager class.

**Scenarios II:**

There are many publication houses in India. Publication of books written by one or more than one authors is the main activity of a publication house. A book will have different number of pages. Each page will have page number. A page may contain texts (Type 1) or texts and tables (Type 2) or texts, tables and figures (Type 3). A book will have one page of table of contents, one page of list of tables (in which page number of table is mentioned), and one page of list of figures (in which page number of figure is mentioned). Printing costs of normal page (only text) is Rs. 2, whereas for pages having texts and table is Rs. 3, and a page having texts, tables, and figures is Rs 5. A publication house can publish many books in a month and fix price of a book which is 1.5 times of the amount needed (decided by number of pages) for publishing a book. Before publishing a book the publication house will see that whether it has sufficient fund to publish it or not. If sufficient fund is there then it will print it. Further, PH will track the record of the sold books; if it is sold the profit is added to the balance sheet of the publication house.

Now consider a publisher having initial balance of Rs 1000. It published 10 books having different pages (user inputted). Say three books are being sold. Now it needs to publish a book having different types of pages. Your program will analyse whether the publisher can publish that book or not.