Academy of Technology

Department of Electrical & Electronics Engineering, Semester: 5TH
Paper Name: Object Oriented Programming Lab,
Laboratory Assignment: 5

Question 1: Define a class Library having the following description:

Data Members	Purpose
String name	to store name of the book
int price	to store the printed price of the book
int day	to store the number of days for which fine is to be paid
double fine	to store the fine to be paid

Member functions	Purpose
void input()	To accept the name of the book and printed price of the book
void cal()	Calculates the fine to be paid
void display()	Displays the name of the book and fine to be paid

Write a program to compute the fine according to the given conditions and display the fine to be paid.

Days	Fine
First seven days	25 paise per day
Eight to fifteen days	40 paise per day
Sixteen to thirty days	60 paise per day
More than thirty days	80 paise per day

Question 2: A bookseller maintains record of books belonging to the various publishers. He uses a class with the specifications given below:

Class name — Stock

Data Members:
1. String title — Contains title of the book
2. String author — Contains author name
3. String pub — Contains publisher's name
4. int noc — Number of copies

Member Methods:
1. void getdata() — To accept title, author, publisher's name and the number of copies.
2. void purchase(int t, String a, String p, int n) — To check the existence of the book in the stock by comparing total, author's and publisher's name. Also check whether noc >n or not. If yes, maintain the balance as noc-n, otherwise display book is not available or stock is under flowing.

Write a program to perform the task given above.

Question 3: Bank charges interest for the vehicle loan as given below:

Number of years	Rate of interest
Up to 5 years	15%
More than 5 and up to 10 years	12%
Above 10 years	10%

Write a program to model a class with the specifications given below:

Class name: Loan

Data Members	Purpose
int time	Time for which loan is sanctioned
double principal	Amount sanctioned
double rate	Rate of interest
double interest	To store the interest
double amt	Amount to pay after given time

Member Methods	Purpose
void getdata()	To accept principal and time

void calculate()	To find interest and amount. Interest = (Principal*Rate*Time)/100 Amount = Principal + Interest
void display()	To display interest and amount

Question 4: Hero Honda has increased the cost of its vehicles as per the type of the engine using the following criteria:

Type of Engine	Rate of increment
2 stroke	10% of the cost
4 stroke	12% of the cost

Write a program by using a class to find the new cost as per the given specifications:

Class name: Honda

Data Members	Purpose
int type	To accept type of engine 2 stroke or 4 stroke
int cost	To accept previous cost

Member Methods	Purpose
void gettype()	To accept the type of engine and previous cost
void find()	To find the new cost as per the criteria given above
void printcost()	To print the type and new cost of the vehicle

Question 5: Define a class called 'Mobike' with the following specifications:

Data Members	Purpose
int bno	To store the bike number
int phno	To store the phone number of the customer
String name	To store the name of the customer
int days	To store the number of days the bike is taken on rent
int charge	To calculate and store the rental charge

Member Methods	Purpose
void input()	To input and store the details of the customer
void compute()	To compute the rental charge
void display()	To display the details in the given format

The rent for a mobike is charged on the following basis:

Days	Charge
For first five days	₹500 per day
For next five days	₹400 per day
Rest of the days	₹200 per day

Output:

Bike No.	Phone No.	Name	No. of days	Charge
xxxxxxx	xxxxxxxx	xxxx	xxx	xxxxxx