

QUESTION 1)

```
import java.util.*;
class Customer{
    int consumerNo;
    String ConsumerName;
    int prevMonthReading;
    int currMonthReading;
    char type;
    Customer(int cNo, String cName, int prevR, int currR, char t){
        consumerNo=cNo;
        ConsumerName=cName;
        prevMonthReading=prevR;
        currMonthReading=currR;
        type=t;
    }
    float calBillAmt(){
        int units = currMonthReading - prevMonthReading;
        double amt = 0;
        if(type=='d'){
            if(units<=100) amt = units;
            else if(units<=200) amt = 100 + 2.5*(units-100);
            else if(units<=500) amt = 100+250+4*(units-200);
            else amt = 100+250+1200+(units-500)*6;
        }
        else{
            if(units<=100) amt = 2*units;
            else if(units<=200) amt = 200 + 4.5*(units-100);
            else if(units<=500) amt = 200+450+6*(units-200);
            else amt = 200+450+1800+(units-500)*7;
        }
        return (float)amt;
    }
}
```

```

class EB{
    public static void main(String []args){
        Scanner sobj = new Scanner(System.in);
        System.out.println("Enter consumer num: ");
        int cNo= sobj.nextInt();
        System.out.println("Enter consumer name: ");
        sobj.next();//to clear newline from buffer
        String cName = sobj.nextLine();
        System.out.println("Enter previous month reading: ");
        int prev = sobj.nextInt();
        System.out.println("Enter current month reading: ");
        int curr = sobj.nextInt();
        System.out.println("Enter type domestic or commercial (d/c): ");
        char t = sobj.next().charAt(0);
        Customer c1= new Customer(cNo, cName, prev, curr, t);
        System.out.println("Bill Amount: "+c1.calBillAmt());
        sobj.close();
    }
}

```

OUTPUT:

```

E:\sem3\javaLab\ex01>javac 1.java

E:\sem3\javaLab\ex01>java EB
Enter consumer num:
126
Enter consumer name:
vignesh balaji
Enter previous month reading:
450
Enter current month reading:
600
Enter type domestic or commercial (d/c):
d
Bill Amount: 225.0

E:\sem3\javaLab\ex01>java EB
Enter consumer num:
127
Enter consumer name:
balaji
Enter previous month reading:
450
Enter current month reading:
600
Enter type domestic or commercial (d/c):
c
Bill Amount: 425.0

E:\sem3\javaLab\ex01>_

```

QUESTION 2)

```
import java.util.*;
class Student{
    int id;
    String dept;
    int m1,m2,m3;//assuming out of 100
    Student(int idp, String deptp, int m1p, int m2p, int m3p){
        id=idp; dept=deptp; m1=m1p; m2=m2p; m3=m3p;
    }
    float calGpa(){
        return ((float)(m1+m2+m3)/300)*10;
    }
    boolean Search(int idp){
        if(idp==id) return true;
        else return false;
    }
    boolean Search(int idp, String deptp){
        if(idp==id && deptp.equals(dept)) return true;
        else return false;
    }
    void display(){
        System.out.println("ID: "+id);
        System.out.println("Dept: "+dept);
        System.out.println("M1: "+m1);
        System.out.println("M2: "+m2);
        System.out.println("M3: "+m3);
    }
}
```

```
class Driver{
    public static void main(String []args){
        Scanner so = new Scanner(System.in);
        Student []arr = new Student[20];
        int n;
        int id; String dept; int m1,m2,m3;
        System.out.println("Enter the n value: ");
        n = so.nextInt();
        for(int i=0;i<n;i++){
            System.out.println("Enter id: ");
            id=so.nextInt();
            System.out.println("Enter dept: ");
            dept=so.next();
            System.out.println("Enter mark1: ");
            m1=so.nextInt();
            System.out.println("Enter mark2: ");
            m2=so.nextInt();
            System.out.println("Enter mark3: ");
            m3=so.nextInt();
            arr[i]= new Student(id, dept, m1, m2, m3);
        }
        System.out.println("Enter id to search and display: ");
        id=so.nextInt();
        for(int j=0;j<n;j++){
            if(arr[j].Search(id)){
                arr[j].display();
                System.out.println("Grade: "+arr[j].calGpa());
            }
        }
        System.out.println("Enter dept to filter: ");
        dept=so.next();
        for(int k=0;k<n;k++){
            if(arr[k].Search(id,dept)){
                arr[k].display();
                System.out.println("Grade: "+arr[k].calGpa());
            }
        }
        so.close();
    }
}
```

OUTPUT:

```
C
E:\sem3\javaLab\ex01>java Driver
Enter the n value:
5
Enter id:
1
Enter dept:
cse
Enter mark1:
13
Enter mark2:
14
Enter mark3:
15
Enter id:
2
Enter dept:
cse
Enter mark1:
45
Enter mark2:
46
Enter mark3:
47
Enter id:
1
Enter dept:
ece
Enter mark1:
56
Enter mark2:
57
Enter mark3:
58
Enter id:
2
Enter dept:
ece
Enter mark1:
67
Enter mark2:
68
Enter mark3:
69
Enter id:
1
Enter dept:
bme
Enter mark1:
70
Enter mark2:
67
```

```
Enter mark1:
67
Enter mark2:
68
Enter mark3:
69
Enter id:
1
Enter dept:
bme
Enter mark1:
70
Enter mark2:
67
Enter mark3:
45
Enter id to search and display:
1
ID: 1
Dept: cse
M1: 13
M2: 14
M3: 15
Grade: 1.4
ID: 1
Dept: ece
M1: 56
M2: 57
M3: 58
Grade: 5.7
ID: 1
Dept: bme
M1: 70
M2: 67
M3: 45
Grade: 6.0666666
Enter dept to filter:
cse
ID: 1
Dept: cse
M1: 13
M2: 14
M3: 15
Grade: 1.4
```

QUESTION 3)

```

import java.util.*;
class Employee{
    String name,desg;
    int id,years,hours;
    float basic,DA,HRA,LIC,PF,gpay,ded,netpay;
    Employee(int idp, String namep, String designp, int hoursp, int yearsp, float basicp, float lic
p){
    id=idp; name=namep; desg=designp; hours=hoursp; years=yearsp; basic=basicp; LIC=licp;
    if(desg.equals("Intern")){
        DA=2000;
        HRA=1000;
        PF=500;
    }
    else{
        HRA= (float)0.1*basic;
        PF= (float)0.08*basic;
        if(desg.equals("Manager")) DA=(float)0.4*basic;
        else DA=(float)0.3*basic;
    }
}
void display(){
    System.out.println("-----PAY SLIP-----");
    System.out.println("Name : "+name);
    System.out.println("ID : "+id);
    System.out.println("Designation : "+desg);
    if(desg.equals("Intern")){
        System.out.println("Hours Worked : "+hours);
        System.out.println("Hourly wage : "+500);
    }
    else{
        System.out.println("Years of experience : "+years);
        System.out.println("Basic Pay : "+basic);
    }
    System.out.println("DA : "+DA);
    System.out.println("HRA : "+HRA);
    System.out.println("LIC : "+LIC);
    System.out.println("PF : "+PF);
    System.out.println("GROSS : "+gpay);
    System.out.println("DEDUCTION : "+ded);
    System.out.println("NET : "+netpay);
    System.out.println("-----");
    if(!desg.equals("Intern") && years>=3){
        System.out.println("Employee is eligible for promotion");
    }
}
void calculate(){
    if(desg.equals("Intern")){
        gpay=hours*500 + DA + HRA;
    }
    else{
        gpay=basic+DA+HRA;
    }
    ded=LIC+PF;
    netpay=gpay-ded;
}
}

```

```

}
class Driver{
    static Scanner so = new Scanner(System.in);
    static void input(int i, Employee []arr){
        String name,desg;
        int id,years=0,hours=0;
        float basic=0,LIC;
        System.out.println("Enter ID: ");
        id=so.nextInt();
        System.out.println("Enter consumerName: ");
        name=so.next();
        System.out.println("Enter designation: ");
        desg=so.next();
        if(desg.equals("Intern")){
            System.out.println("Enter hours: ");
            hours=so.nextInt();
            System.out.println("Enter LIC");
            LIC=so.nextFloat();
        }
        else{
            System.out.println("Enter years of exp: ");
            years=so.nextInt();
            System.out.println("Enter basic pay: ");
            basic=so.nextFloat();
            System.out.println("Enter LIC");
            LIC=so.nextFloat();
        }
        arr[i]= new Employee(id, name, desg, hours, years, basic, LIC);
    }
    public static void main(String args[]){
        int n;
        System.out.println("Enter n value: ");
        n=so.nextInt();
        Employee []arr = new Employee[n];
        for(int i=0;i<n;i++){
            input(i,arr);
            arr[i].calculate();
        }
        for(int j=0;j<n;j++){
            arr[j].display();
        }
        so.close();
    }
}

```



```
E:\sem3\javaLab\ex01>java Driver
Enter n value:
3
Enter ID:
126
Enter consumerName:
vigneshbalaji
Enter designation:
Intern
Enter hours:
40
Enter LIC
300
Enter ID:
127
Enter consumerName:
naresh
Enter designation:
Manager
Enter years of exp:
8
Enter basic pay:
70000
Enter LIC
2000
Enter ID:
128
Enter consumerName:
nandu
Enter designation:
Trainee
Enter years of exp:
2
Enter basic pay:
30000
Enter LIC
100
```

-----PAY SLIP-----

Name : vigneshbalaji
ID : 126
Designation : Intern
Hours Worked : 40
Hourly wage : 500
DA : 2000.0
HRA : 1000.0
LIC : 300.0
PF : 500.0
GROSS : 23000.0
DEDUCTION : 800.0
NET : 22200.0

-----PAY SLIP-----

Name : naresh
ID : 127
Designation : Manager
Years of experience : 8
Basic Pay : 70000.0
DA : 28000.0
HRA : 7000.0
LIC : 2000.0
PF : 5600.0
GROSS : 105000.0
DEDUCTION : 7600.0
NET : 97400.0

Employee is eligible for promotion

-----PAY SLIP-----

Name : nandu
ID : 128
Designation : Trainee
Years of experience : 2
Basic Pay : 30000.0
DA : 9000.0
HRA : 3000.0
LIC : 100.0
PF : 2400.0
GROSS : 42000.0
DEDUCTION : 2500.0
NET : 39500.0