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Batch:B2

Q1: **The payment option on any e-commerce website has several options like netbanking, COD, credit card, etc. That means, a payment method is overloaded several times to perform single payment function in various ways.**

To perform the above functionality write a

class Purchase with

Data members

1-item

2- price

3-quantity

Method

1-Billing()------price*quantity

overload payment method according to the type of payement option

2-payment()----COD----Billing+additional charges Rs.50

3-Payment(Bank name, Account no.)----net banking----billing+1%

4-Payment(Credit card No)-----Credit Card-----billing+2%

write a menu-driven program to perform payment with the following options:

1- COD---default option of payment

2-Netbanking---read bank details from a user

3-Creditcard-read credit card details from a user

CODE:

```
import java.util.*;

class Purchase{


    public String [] item;

    public int []price;

    public int []quan;

    public float bill=0.0f;


    Purchase(String []i,int []p,int[] q){
```

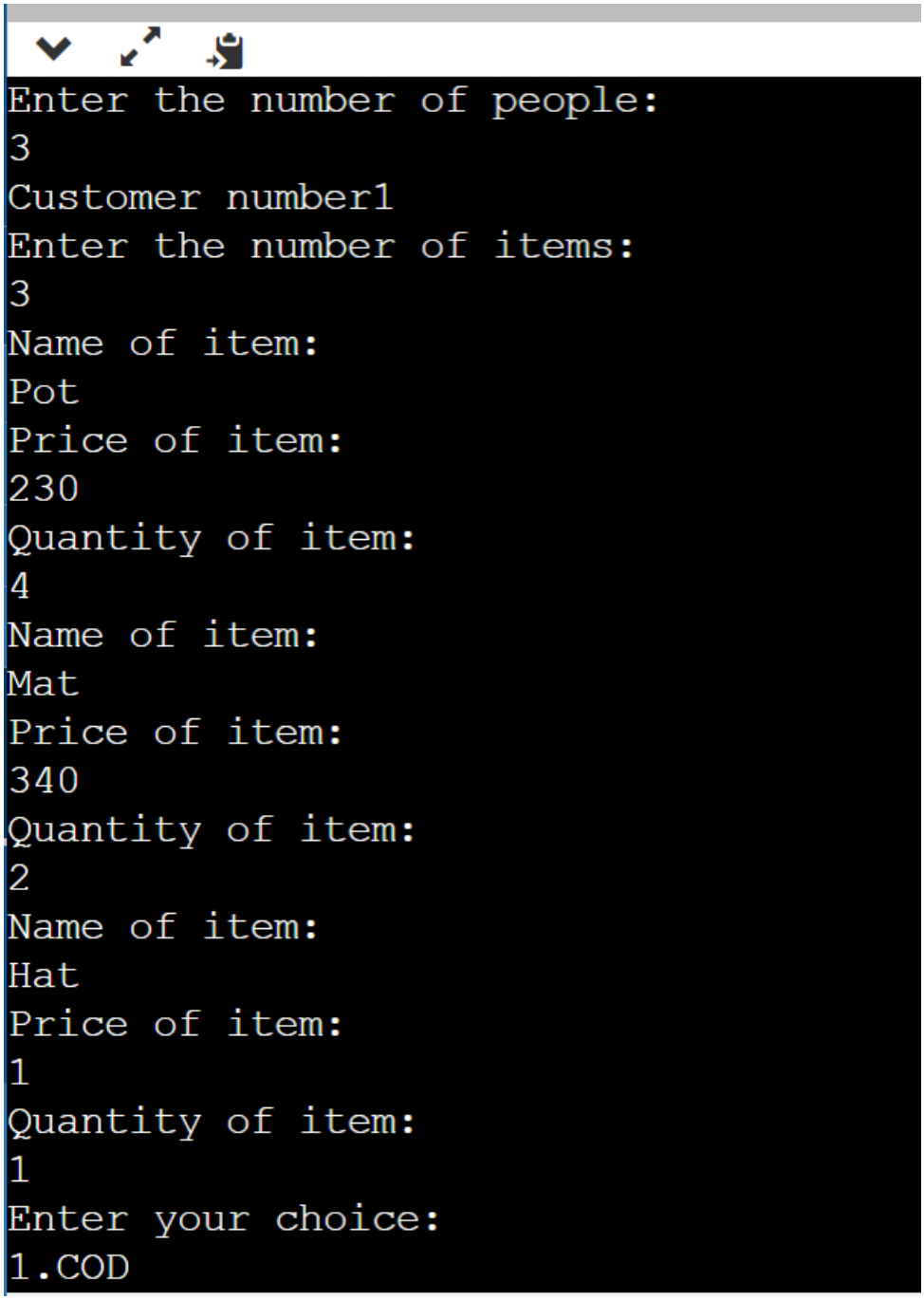
```
        this.item=i;
        this.price=p;
        this.quan=q;
    }
    public float billing(){

      for(int i=0;i<item.length;i++){
          bill+= price[i]*quan[i];
      }
      return bill;
    }
    //COD
    public float billing1(){
      return bill +50;
    }
    //Net-Banking
    public float billing1(String n,int a){
      return 1.01f*bill;
    }
    //Credit-Card
    public float billing1(int i){
      return 1.02f*bill;
    }

}
public class Main{
```

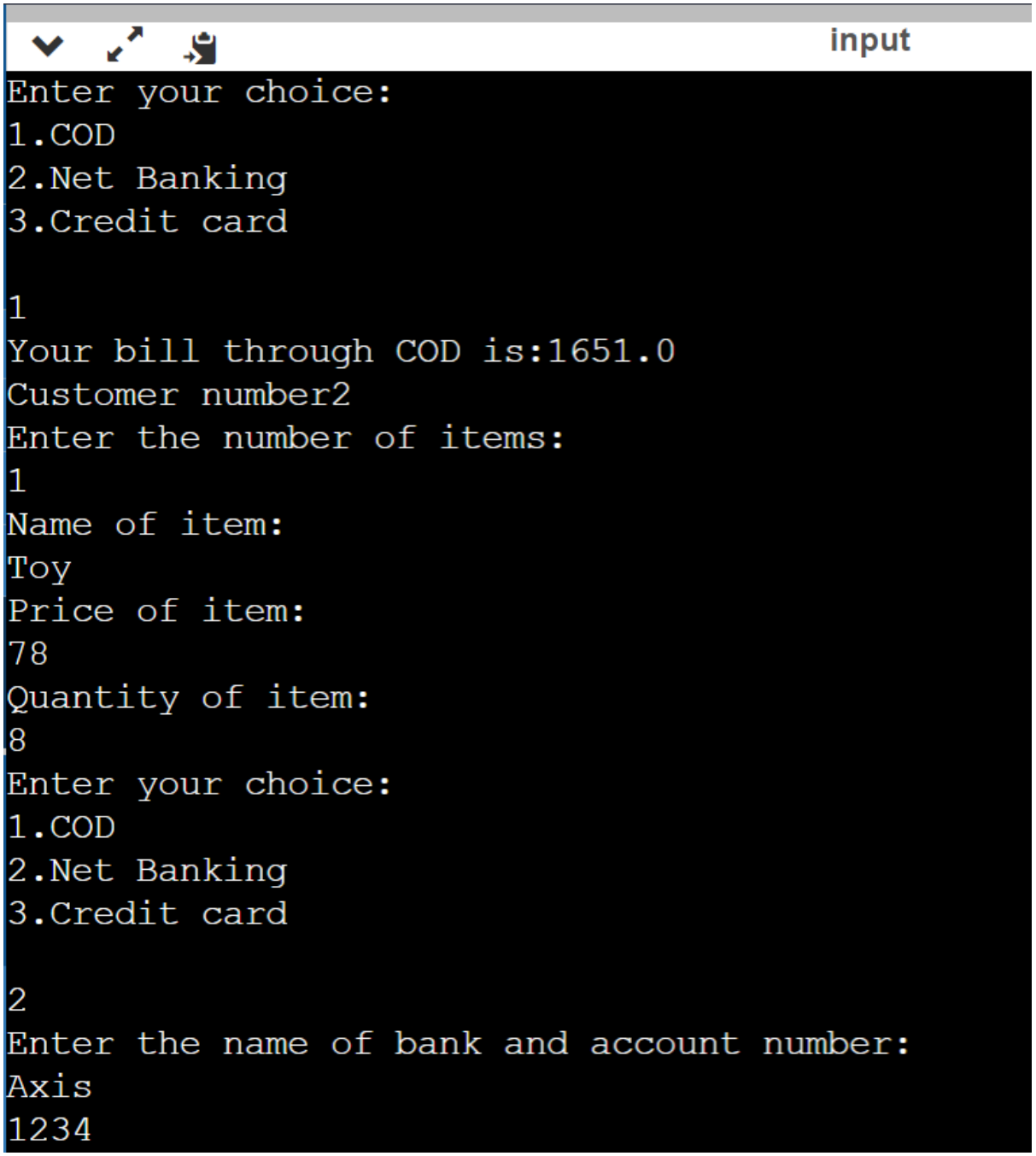
```
public static void main(String[] args) {
    Scanner s = new Scanner(System.in);
    int n,a;
    System.out.println("Enter the number of people:");
    n= s.nextInt();
    Purchase P []= new Purchase[n];
    for(int h=0;h<n;h++){
        System.out.println("Customer number" + (h+1));
        System.out.println("Enter the number of items:");
        int it=s.nextInt();
        String [] item= new String[it];
        int []price= new int[it];
        int []quan=new int[it];
        for(int k=0;k<it;k++){
            System.out.println("Name of item:");
            item[k]=s.next();
            System.out.println("Price of item:");
            price[k]=s.nextInt();
            System.out.println("Quantity of item:");
            quan[k]=s.nextInt();
        }
        Purchase g= new Purchase(item,price,quan);
        P[h]=g;

        System.out.println("Enter your choice:");
        System.out.println("1.COD\n2.Net Banking \n3.Credit card\n");
        a=s.nextInt();
```

```
switch(a){
   case 1:
   {
      float z=g.billing();
      float y=g.billing1();
      System.out.println("Your bill through COD is:"+ y);
      break;
   }
   case 2:
   {

      System.out.println("Enter the name of bank and account number:");
      String na=s.next();
      int an = s.nextInt();
      float q= g.billing();
      float w= g.billing1(na,an);
      System.out.println("Your bill through Net Banking is:"+w );
      break;
   }
   case 3:
   {

      System.out.println("Enter your credit card number:");
      int cn=s.nextInt();
      float sd= g.billing();
      System.out.println("Your bill through Credit Card is:" + g.billing1(cn));
      break;
```

```
            }
            default:{
                System.out.println("Invalid choice");
            }


        }
    }


}
}
```

Output:


Enter the number of people:
3
Customer number1
Enter the number of items:
3
Name of item:
Pot
Price of item:
230
Quantity of item:
4
Name of item:
Mat
Price of item:
340
Quantity of item:
2
Name of item:
Hat
Price of item:
1
Quantity of item:
1
Enter your choice:
1.COD


input
Enter your choice:
1.COD
2.Net Banking
3.Credit card
1
Your bill through COD is:1651.0
Customer number2
Enter the number of items:
1
Name of item:
Toy
Price of item:
78
Quantity of item:
8
Enter your choice:
1.COD
2.Net Banking
3.Credit card
2
Enter the name of bank and account number:
Axis
1234

```
2
Enter the name of bank and account number:
Axis
1234
Your bill through Net Banking is:630.24
Customer number3
Enter the number of items:
2
Name of item:
Cotton
Price of item:
90
Quantity of item:
8
Name of item:
Rice
Price of item:
134
Quantity of item:
2
Enter your choice:
1.COD
2.Net Banking
3.Credit card
```

```
Name of item:
Cotton
Price of item:
90
Quantity of item:
8
Name of item:
Rice
Price of item:
134
Quantity of item:
2
Enter your choice:
1.COD
2.Net Banking
3.Credit card

3
Enter your credit card number:
345
Your bill through Credit Card is:1007.76


...Program finished with exit code 0
Press ENTER to exit console.
```

Q2:

Create a Test class with data double base, int power, int logBase, int argument.

Create a default, no-argument constructor which sets the default value of all variables to 2.

There are 2 overloaded functions:

1. double calculate (double base, int power)

This function returns the value when *base* is raised to *power*

For example: calculate (3.0, 2) returns the value of 3.0 raised to 2 i.e., 9.0

2. double calculate (int logBase, int argument)

This function returns the value of the log of *argument* to the base *logBase*.

For example: calculate (3, 9) returns log of 9 to the base 3 i.e., 2.0

Create a main method in a separate class to call the above functions with the following inputs:

1. calculate (2, 4)

2. calculate (2.0, 4.0)

Create a display() method which displays the output based on the type of Test object created.

CODE:

```
import java.util.*;

class Test{

   double base;

   int power;

   int logBase;

   int argument;

   Test(){

      this.base=2;

      this.power=2;

      this.logBase=2;

      this.argument=2;

   }

   public double calculate(double b,int p){

      this.base=b;

      this.power=p;

      double val=Math.pow(b, p);

      return val;

   }

   public double calculate (double lb, double ar){

      double a;

      double b;

      a= Math.log10(ar);
```

```
        b= Math.log10(lb);
        double val=a/b;
        return val;
    }
    void display(double val){
        System.out.println("The result is "+ val);
    }

}
public class Main {
    public static void main(String[] args) {
        Test t = new Test();
        double u= t.calculate(2,4);
        t.display(u);
        double sd= t.calculate(2.0,4.0);
        t.display(sd);

    }
}
```

Output: