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AIM:	**Method Overloading**
Program 1	
PROBLEM STATEMENT :	**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 use**
PROGRAM:	**import java.util.Scanner;** **class Purchase {** **private String item;** **private double price;** **private int quantity;**

```
    public Purchase(String item, double price, int quantity) {
        this.item = item;
        this.price = price;
        this.quantity = quantity;
    }

    public double Billing() {
        return price * quantity;
    }

    public double payment() {
        return Billing() + 50; // COD payment with additional charges
Rs.50
    }

    public double payment(String bankName, String accountNo) {
        return Billing() + (Billing() * 0.01); // Net banking payment with
1% additional charge
    }

    public double payment(String creditCardNo) {
        return Billing() + (Billing() * 0.02); // Credit card payment with
2% additional charge
    }
}

public class MainPurchase {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter item name:");
        String item = scanner.nextLine();
        System.out.print("Enter price:");
        double price = scanner.nextDouble();
        System.out.print("Enter quantity:");
        int quantity = scanner.nextInt();

            Purchase purchase = new Purchase(item, price, quantity);

        System.out.println("Choose payment method:");
        System.out.println("1. COD (Cash on Delivery)");
```

```
        System.out.println("2. Netbanking");
        System.out.println("3. Creditcard");

        int choice = scanner.nextInt();
        switch (choice) {
            case 1:
                System.out.println("Total amount to be paid (COD): " +
purchase.payment());
                break;
            case 2:
                System.out.print("Enter bank name:");
                String bankName = scanner.next();
```

```
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ java MainPurchase
Enter item name:Maggi
Enter price:100
Enter quantity:1
Choose payment method:
1. COD (Cash on Delivery)
2. Netbanking
3. Creditcard
1
Total amount to be paid (COD): 150.0
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ java MainPurchase
Enter item name:Towel
Enter price:200
Enter quantity:2
Choose payment method:
1. COD (Cash on Delivery)
2. Netbanking
3. Creditcard
2
Enter bank name:Kotak
Enter account number:1234 5678 1234 5678
Total amount to be paid (Netbanking): 404.0
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ java MainPurchase
Enter item name:Phone
Enter price:10,000
Enter quantity:3
Choose payment method:
1. COD (Cash on Delivery)
2. Netbanking
3. Creditcard
3
Enter credit card number:4321 8765 4321 8765
Total amount to be paid (Creditcard): 30600.0
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ java MainPurchase
Enter item name:salt
Enter price:30
Enter quantity:5
Choose payment method:
1. COD (Cash on Delivery)
2. Netbanking
3. Creditcard
4
Invalid choice!
```

Program 2	
PROBLEM STATEMENT :	**Create a Date class with data int year, int month, int date, int hrs, int min, int sec. Create a default, no-argument constructor which sets the default date to January 1, 2000, 00:00:00** **Create 3 overloaded setter methods** **void setDate(int year, int month, int date)** **void setDate(int year, int month, int date, int hrs, int min)** **void setDate(int year, int month, int date, int hrs, int min, int sec)** **Also write a displayDate() method which will display the date depending on the type of date object created.** **1-add a function calculating the date of retirement at age of 60 for the given input date.** **2- You are given the dates of birth of two persons, not necessarily from the same family.** **Your task is to find the younger of the two. If both of them share the same date of birth, then the younger of the two is assumed to be that person whose name comes first in alphabetical order** **The input will have four lines. The first two lines correspond to the first person, while the last two lines correspond to the second person. For each person, the first line corresponds to the name and the second line corresponds to the date of birth in DD-MM-YYYY format. Your output should be the name of the younger of the two.**
PROGRAM:	**import java.util.*;** **class Date** **{** **int year, month, date, hrs, min, sec;** **Date ()** **{** **this.year = 2000;** **this.date = 1;** **this.month = 1;**

```
                this.hrs = 0;
                this.min = 0;
                this.sec = 0;
        }
        void setDate (int year, int month, int date)
        {
                this.year = year;
                this.month = month;
                this.date = date;
        }
        void setDate (int year, int month, int date, int hrs, int min)
        {
                setDate (year, month, date);
                this.hrs = hrs;
                this.min = min;
        }
        void setDate (int year, int month, int date, int hrs, int min, int
sec)
        {
                setDate (year, month, date, hrs, min);
                this.sec = sec;
        }
        void displayDate ()
        {
                System.out.println (date + "/" + month + "/" + year);
        }
        void Calc (int date, int month, int year)
        {
                year+=60;
                System.out.println ("You will retire on " + date + "/" +
month + "/" + year);
        }
        void Young (String name1, String name2, int date1, int date2,
int month1, int month2, int year1, int year2)
        {
                if (year1 > year2)
                        System.out.println (name1 + " is the name of the
younger person");
                else if (year1 < year2)
                        System.out.println (name2 + " is the name of the
```

```
younger person");
                else
                {
                        if (month1 > month2)
                                System.out.println (name1 + " is the name
of the younger person");
                        else if (month1 < month2)
                                System.out.println (name2 + " is the name
of the younger person");
                        else
                        {
                                if (date1 > date2)
                                        System.out.println (name1 + " is the
name of the younger person");
                                else if (date2 > date1)
                                        System.out.println (name2 + " is the
name of the younger person");
                                else
                                {
                                        for (int i = 0; i < name1.length (); i+
+)
                                        {
                                                if (name1.charAt(i) >
name2.charAt(i))
                                                {
                                                System.out.println (name2 +
" is the name of the younger person");
                                                break;
                                                }
                                                else if (name1.charAt(i) <
name2.charAt(i))
                                                {
                                                System.out.println (name1 +
" is the name of the younger person");
                                                break;
                                                }
                                                else
                                                {
                                                        continue;
                                                }
```

```
                                        }
                                    }
                                }
                            }
                        }
}
class ABCD
{
        public static void main (String[] args)
        {
                Date obj = new Date ();
                Scanner sc = new Scanner (System.in);
                System.out.print ("Enter 1 to find your day of retirement
and 2 for finding the younger of 2 people: ");
                int ch = sc.nextInt ();
                switch (ch)
                {
                        case 1: System.out.println ("Enter your date of
birth in order of day, month and year");
                                        int date = sc.nextInt ();
                                        int month = sc.nextInt ();
                                        int year = sc.nextInt ();
                                        obj.Calc (date, month, year);
                                        break;
                        case 2: System.out.println ("Enter the date of
birth of first person in order of day, month and year");
                                        int date1 = sc.nextInt ();
                                        int month1 = sc.nextInt ();
                                        int year1 = sc.nextInt ();
                                        System.out.println ("Enter the
name of first person");
                                        String name1 = sc.next();
                                        System.out.println ("Enter the date
of birth of second person in order of day, month and year");
                                        int date2 = sc.nextInt ();
                                        int month2 = sc.nextInt ();
                                        int year2 = sc.nextInt ();
                                        System.out.println ("Enter the
name of second person");
                                        String name2 = sc.next();
```

```
                                        obj.Young (name1, name2, date1,
date2, month1, month2, year1, year2);
                                        break;
                                default: System.out.println ("You have selected
the wrong choice, please try again later: ");
                        }
                }
}
```

```
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ javac ABCD.java
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ java ABCD
Enter 1 to find your day of retirement and 2 for finding the younger of 2 people: 1
Enter your date of birth in order of day, month and year
08 09 2005
You will retire on 8/9/2065
psipl@psipl-OptiPlex-3000:~/Desktop/2023300065$ java ABCD
Enter 1 to find your day of retirement and 2 for finding the younger of 2 people: 2
Enter the date of birth of first person in order of day, month and year
08 09 2005
Enter the name of first person
Debjit
Enter the date of birth of second person in order of day, month and year
01 06 2005
Enter the name of second person
Asawari
Debjit is the name of the younger person
```

RESULT:

CONCLUSION:	I have learnt about the use of Method Overloading. I have also learnt about the use of multiple functions ina single program.