JAVA-Week 5

Objective: Implementing the concepts of class variable, instance variable, use of "this" keyword, use of reference variable in Java.

Assignments:

1. Create a "circle" class & a "point" class. The coordinates of the circle are given and used within the "circle" class as object of the "point" class. Display the area of circle.

```
package Week5;

import java.util.*;

class circle{
     double rad;

     circle(point p1,point p2){
          this.rad=Math.sqrt(Math.pow((p2.x-p1.x),2)+Math.pow((p2.y-
p1.y),2));
     }
     double display_area(){
          double area=(3.14*rad*rad);
          return area;
     }


}

class point{
     int x,y;
     point(int x, int y){
          this.x=x;
          this.y=y;
     }
}

public class circleMain{
     public static void main(String args[])
     {
          Scanner sc=new Scanner(System.in);
          System.out.println("Enter the x and y axis of two point");
          int a=sc.nextInt();
          int b=sc.nextInt();
          int c=sc.nextInt();
          int d=sc.nextInt();
          point p1=new point(a,b);
```

```
            point p2=new point(c,d);
            circle mycircle=new circle(p1,p2);
            double disp=mycircle.display_area();
            System.out.println("Area of the circle is: "+disp);
      }
}
Enter the x and y axis of two point
4
5
6
7
Area of the circle is: 25.120000000000005
```

2. Create a class called Time, which has three private instance variables – hour, min and sec. It contains a method called add( ) which takes one Time object as parameter and print the added value of the calling Time object and passes Time object. In the main method, declare two Time objects and assign values using constructor and call the add() method.

```
package Week5;

import java.util.Scanner;

class time{
      int hour,min,sec;

      time(int hour,int min, int sec){
            this.hour=hour;
            this.min=min;
            this.sec=sec;
      }
      void add_times(time mytime){
            int sec,hour,min;
            sec=this.sec+mytime.sec;
            if(sec>=60)
            {
            min=this.min+mytime.min+1;
            sec=sec-60;
            }
            else
            min=this.min+mytime.min;
            if(min>=60)
            {
            hour=this.hour+mytime.hour+1;
            min=min-60;
            }
```

```
            else
            hour=this.hour+mytime.hour;


      System.out.println("\nAdded Time t1+t2 is: "+hour+" hour "+min+"
min "+sec+" sec ");

      }

}
public class timeMain{
      public static void main(String args[]){
            Scanner sc=new Scanner(System.in);
            System.out.println("Enter the first Time int hh/mm/ss format:
");
            int h1=sc.nextInt();
            int m1=sc.nextInt();
            int s1=sc.nextInt();
            System.out.println("Enter the second Time int hh/mm/ss format:
");
            int h2=sc.nextInt();
            int m2=sc.nextInt();
            int s2=sc.nextInt();
            time t1=new time(h1,m1,s1);
            time t2=new time(h2,m2,s2);

            System.out.println("\nTime t1 is:
"+t1.hour+"hour"+t1.min+"min"+t1.sec+"sec");
            System.out.println("Time t2 is:
"+t2.hour+"hour"+t2.min+"min"+t2.sec+"sec");
            t1.add_times(t2);
      }
}
Enter the first Time int hh/mm/ss format:
1
44
56
Enter the second Time int hh/mm/ss format:
1
3
45

Time t1 is: 1hour44min56sec
Time t2 is: 1hour3min45sec

Added Time t1+t2 is: 2 hour 48 min 41 sec
```

3. Create a class called Complex, which has three private instance variables –real and imaginary. It contains a method called add( ) which takes one Complex object as parameter and print the added value of the calling Complex object and passes Complex object. In the main method, declare two Complex objects and assign values using constructor and call the add() method.

```
package Week5;

import java. util.*;

class Complex{
     int real;
     int   imaginary;

     Complex (int real, int imaginary)
          {
          this.real=real;;
          this.imaginary=imaginary;
     }

     void add(Complex op2){

          this.real=this.real+op2.real;
          this.imaginary=this.imaginary+op2.imaginary;
     }


     void display()
          {
          System.out.println(" The value: " + real +" + " +
imaginary+"i");
          }
}

public class complexDrive
{
     public static void main(String args[])
     {
          Scanner sc=new Scanner(System.in);
          System.out.println("Enter the Real part of two numbers: ");
          int r1=sc.nextInt();
          int r2=sc.nextInt();
          System.out.println("Enter the Imaginary part of two numbers:
");
          int i1=sc.nextInt();
          int i2=sc.nextInt();
          Complex op=new Complex(r1,i1);
```

```
            Complex op1=new Complex(r2,i2);

            System.out.println("Before add");
            op.display();
            op1.display();
            op.add(op1);
            System.out.println("After add");
            op.display();
      }

}
Enter the Real part of two numbers:
2
3
Enter the Imaginary part of two numbers:
8
6
Before add
 The value: 2 + 8i
 The value: 3 + 6i
After add
 The value: 5 + 14i
```

4. Write a program to define a class having one 3-digit number, num as data member. Initialize and display reverse of that number.

```
package Week5;

import java.util.*;
class Reverse
{
      int num;
      Reverse(int n)
      {
            num=n;
      }

      int rev(int num)
      {
            int rev=0;
            while(num>0)
            {
            rev=rev*10+(num%10);
            num=num/10;
            }
            return rev;
      }
}
public class RevDrive
{
```

```
      public static void main(String args[])
      {
      Scanner sc=new Scanner(System.in);
      System.out.println("Enter a number:");
      int b=sc.nextInt();
      Reverse a=new Reverse(b);
      System.out.println("Reverse of "+b+" is:");
      int re=a.rev(b);
      System.out.println(re);
      }
}
Enter a number:
154
Reverse of 154 is:
451
```

5. Write a program to define a class Student with four data members such as name, roll no., sub1, and sub2. Define appropriate methods to initialize and display the values of data members. Also calculate total marks and percentage scored by student.

```
package Week5;

import java.util.*;
class Student
      {
      int roll,sub1,sub2;
      String name;
      int total;
      double per;
      void Initialize(int roll,String name,int sub1,int sub2)
      {
            this.roll=roll;
            this.name=name;
            this.sub1=sub1;
            this.sub2=sub2;
      }
      void calculate()
      {
            total=sub1+sub2;
            per=total/2;
      }
      void display()
      {
            System.out.println("Name: "+ name);
            System.out.println("Roll number: "+roll);
            System.out.println("Marks of two subject: "+ sub1+" "+sub2);
            System.out.println("Total : "+total+" Percentage: "+per);
```

```
    }
}
public class StudentDrive
{
    public static void main(String args[])
    {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter your name:");
        String n=sc.nextLine();
        System.out.println("Enter your Roll number:");
        int r=sc.nextInt();
        System.out.println("Enter the marks of two subject:");
        int s1=sc.nextInt();
        int s2=sc.nextInt();
        Student a=new Student();
        a.Initialize(r,n,s1,s2);
        a.calculate();
        a.display();
    }
}
```

```
Enter your name:
Soumyadip
Enter your Roll number:
35
Enter the marks of two subject:
80
85
Name: Soumyadip
Roll number: 35
Marks of two subject: 80 85
Total : 165 Percentage: 82.0
```

6. Write a program to define a class Employee to accept emp_id, emp _name, basic_salary from the user and display the gross_salary.

```
package Week5;

import java.util.*;
class Employee
{
    int emp_id;
    String emp_name;
    float basic_salary;
    Employee(int emp_id, String emp_name, float basic_salary)
    {
        this.emp_id=emp_id;
        this.emp_name=emp_name;
        this.basic_salary=basic_salary;
```

```
	}
	void display()
	{
		float da=basic_salary*15/100;
		float hra=basic_salary*10/100;
		float gross_sal=basic_salary+da+hra;
		System.out.println("YOUR DETAILS IS GIVEN BELOW: \n");
		System.out.println ("Employee Id= "+emp_id);
		System.out.println ("Emplyee Name= "+emp_name);
		System.out.println ("Gross Salary= "+gross_sal);
	}
}
public class EmpDrive
{
	public static void main(String args[])
	{
		Scanner sc=new Scanner(System.in);
		System.out.println ("Enter Employee id");
		int id = sc.nextInt();
		System.out.println ("Enter Employee Name");
		String name = sc.nextLine();
		name = sc.nextLine();
		System.out.println ("Enter Basic Salary");
		float sal = sc.nextFloat();
		Employee e = new Employee(id, name, sal);
		e.display();
	}
}
Enter Employee id
1
Enter Employee Name
Soumyadip
Enter Basic Salary
35000
YOUR DETAILS IS GIVEN BELOW:

Employee Id= 1
Emplyee Name= Soumyadip
Gross Salary= 43750.0
```

7. Write a program to define a class Fraction having data members numerator and denominator. Initialize three objects using different constructors and display its fractional value.

```
package Week5;

import java.util.*;
```

```
class Fraction
{
      double numerator,denominator;
      Fraction (int a, double b)
      {
        numerator=a;
        denominator=b;
      }
      Fraction (int x, int y)
      {
        numerator=x;
        denominator=y;
      }
      Fraction(double m, double n)
      {
        numerator=m;
        denominator=n;
      }
      void display()
      {
        double fraction=numerator/denominator;
        System.out.println ("Fraction = "+fraction);
      }
}
public class FractionDrive
{
      public static void main(String[] args)
      {

            Scanner sc=new Scanner(System.in);
            System.out.println("Enter the Numerator of three numbers:");
            int n1=sc.nextInt();
            int n2=sc.nextInt();
            double n3=sc.nextDouble();
            System.out.println("Enter the Denominator of three numbers:");
            double d1=sc.nextDouble();
            int d2=sc.nextInt();
            double d3=sc.nextDouble();
            Fraction f1 = new Fraction(n1,d1);
            f1.display();
            Fraction f2 = new Fraction(n2,d2);
            f2.display();
            Fraction f3 = new Fraction(n3,d3);
            f3.display();
       }
}
```

```
Enter the Numerator of three numbers:
55
77
91
Enter the Denominator of three numbers:
3
5
6
Fraction = 18.333333333333332
Fraction = 15.4
Fraction = 15.166666666666666
```

8. Write a program to define a class Item containing code and price. Accept this data for five objects using array of objects. Display code, price in tabular form and also, display total price of all items.

```
package Week5;


import java.util.*;
class Item
{
     int price;
     int code;
     Item(int m,int n)
     {
          code=m;
          price=n;
     }
     void display()
     {
          System.out.print(code+"      "+price);
          System.out.println();
     }
}

public class ItemDrive
{
     public static void main(String args[])
     {
          Scanner sc= new Scanner(System.in);
          int a,c,sum=0;
          Item[] obj=new Item[5];
          for(int i=0;i<5;i++)
          {
            System.out.println("Enter Code :");
            c=sc.nextInt();
```

```
            System.out.println("Enter Price :");
            a=sc.nextInt();
            obj[i]=new Item(c,a);
          }
          for(int i=0;i<5;i++)
          {
          sum=sum+obj[i].price;
          }
          System.out.println("Code   Price  ");
          for(int i=0;i<5;i++)
          {
          obj[i].display();
          }
          System.out.println("Total Cost: " + sum);
     }
}
Enter Code :
101
Enter Price :
1000
Enter Code :
201
Enter Price :
300
Enter Code :
301
Enter Price :
9000
Enter Code :
401
Enter Price :
4400
Enter Code :
501
Enter Price :
9000
Code   Price
101      1000
201      300
301      9000
401      4400
501      9000
Total Cost: 23700
```

9. Write a program to define a class Tender containing data members cost and company name. Accept data for five objects and display company name for which cost is minimum.

```
package Week5;

import java.util.*;
class Tender
{
	int cost;
	String name;
	Tender(String a,int b)
	{
		name=a;
		cost=b;
	}
	void display()
	{
		System.out.println(name+"\t"+cost);
	}
}
public class MinDrive
{
	public static void main(String args[])
	{
		int cost,k=-1;
		String name;
		Scanner sc=new Scanner(System.in);
		System.out.println("Enter the number of tenders");
		int n=sc.nextInt();
		Tender obj[]=new Tender[n];

		for(int i=0;i<n;i++)
		{
			System.out.print("Enter the Name of Company:");
			name=sc.nextLine();
			name=sc.nextLine();
			System.out.print("Enter the Cost:");
			cost=sc.nextInt();
			obj[i]=new Tender(name,cost);
		}
		System.out.println("Company Name	Cost");
		for(int i=0;i<n;i++)
		{
			obj[i].display();
		}

		int min=obj[0].cost;
		for(int i=1;i<n;i++)
```

```
            {
                  if(obj[i].cost<min)
                  {
                        k=i;
                        min=obj[i].cost;
                  }
            }
            System.out.println("Minimum = "+min);
      }
}
Enter the number of tenders
2
Enter the Name of Company:TC
Enter the Cost:90000
Enter the Name of Company:IC
Enter the Cost:100000
Company Name       Cost
TC   90000
IC   100000
Minimum = 90000
```

10. Write a program to define a class 'employee' with data members as empid, name and salary. Accept data for 5 objects using Array of objects and print it.

```
package Week5;

import java.util.*;
class Item1
{
      int p,eid;
      String c;
      Item1(String m,int n,int e)
      {
            c=m;
            p=n;
            eid=e;
      }
      void display()
      {
            System.out.print(eid+"      "+c + "      " + p);
            System.out.println();
      }
}

public class SalDrive
{
      public static void main(String args[])
      {
            Scanner sc= new Scanner(System.in);
```

```
            int b,c;
            String a;
            Item1[] obj=new Item1[5];
            for(int i=0;i<5;i++)
            {
              System.out.print("Enter ID :");
              c=sc.nextInt();
              System.out.print("Enter name :");
              a=sc.nextLine();
              a=sc.nextLine();
              System.out.print("Enter salary :");
              b=sc.nextInt();
             obj[i]=new Item1(a,b,c);
            }
            System.out.println("Employee ID Name   Salary ");
            for(int i=0;i<5;i++)
            {
            obj[i].display();
            }
      }
}
Enter ID :1
Enter name :Soumyadip
Enter salary :35000
Enter ID :2
Enter name :Sayan
Enter salary :30000
Enter ID :3
Enter name :Arko
Enter salary :33000
Enter ID :4
Enter name :Sapta
Enter salary :34000
Enter ID :5
Enter name :Avi
Enter salary :35000
Employee ID Name   Salary
1       Soumyadip       35000
2       Sayan       30000
3       Arko       33000
4       Sapta       34000
5       Avi       35000
```

11. Define a class called circle that contains:

- **Two private instance variables: radius (of type double) and color (of type String),**

• Initialize the variables radius and color with default value of 1.0 and "red", respectively using default constructor.
• Include a second constructor that will use the default value for color and sets the radius to the value passed as parameter.
• Two public methods: getRadius() and getArea() for returning the radius and area of the circle
• Invoke the above methods and constructors in the main.

```
package Week5;

import java.util.*;
class AB
{
	private double radius;
	private String color;
	AB()
	{
		radius=1.0;
		color="red";
	}
	AB(double a,String col)
	{
		radius=a;
		color=col;
	}
	double getRadius()
	{
		return radius;
	}
	double getArea()
	{
		double area=3.14*radius*radius;
		return area;
	}
}
public class CDrive
{
	public static void main(String args[])
	{
		Scanner sc=new Scanner(System.in);
		System.out.println("Enter the Radius:");
		double rad=sc.nextDouble();
		System.out.println("Enter the color:");
		String clr=sc.nextLine();
		clr=sc.nextLine();
		AB a=new AB();
		AB b=new AB(rad,clr);
		double q=a.getRadius();
```

```
            System.out.println("Value of radius when we call getRadius()
with non parameterized constructor = "+q);
            double g=b.getRadius();
            System.out.println("Value of radius when we call getRadius()
with parameterized constructor = "+g);
            double ar=b.getArea();
            System.out.println("Area = "+ar);
            System.out.println("Colour = "+clr);
      }
}
Enter the Radius:
4
Enter the color:
Red
Value of radius when we call getRadius() with non parameterized
constructor = 1.0
Value of radius when we call getRadius() with parameterized constructor
= 4.0
Area = 50.24
Colour = Red
```

12. Write a program which will accept an integer from the user and pass the value to a method called PrintNumberInWord that will print "ONE", "TWO",... , "NINE", "ZERO" if the integer variable "number" is 1, 2,... , 9, or 0, respectively.

```
package Week5;

import java.util.Scanner;
class number
{
public static void numberToWord(int num, String val) {
            String ones[] = {" ", " ONE", " TWO", " THREE", " FOUR", "
FIVE", " SIX", " SEVEN", " EIGHT", " NINE", " TEN", " ELEVEN", "
TWELVE", " THIRTEEN", " FOURTEEN", " FIFTEEN", " SIXTEEN", " SEVENTEEN",
" EIGHTEEN", " NINETEEN"
            };
            String tens[] = {" ", " ", " TWENTY", " THIRTY", " FOURTY",
" FIFTY", " SIXTY", " SEVENTY", " EIGHTY", " NINETY"};
            if (num > 19) {
                System.out.print(tens[num / 10] + " " + ones[num % 10]);
            } else {
                System.out.print(ones[num]);
            }
            if (num > 0) {
                System.out.print(val);
            }
        }
}
```

```
public class NumDrive
{
            public static void main(String[] args) {
            int number = 0;
            Scanner scanner = new Scanner(System.in);
            number n=new number();
            System.out.print("Please type a number between 0 and 999 OR
type -1 to exit:  ");
            number = scanner.nextInt();
            while(number!=-1){
                if(number>=0 && number<=999){
                    if(number==0){
                        System.out.print("NUMBER AFTER
CONVERSION:\tZERO");
                    } else {
                        System.out.print("NUMBER AFTER CONVERSION:\t");
                        n.numberToWord(((number / 100) % 10), "
HUNDRED");
                        n.numberToWord((number % 100), " ");
                    }

                } else{
                    System.out.print("NUMBER OUT OF RANGE");
                }
                System.out.print("\nPlease type a number between 0 and
999 OR type -1 to exit:  ");
                number = scanner.nextInt();
            }
        }


    }
Please type a number between 0 and 999 OR type -1 to exit:  191
NUMBER AFTER CONVERSION:  ONE HUNDRED NINETY  ONE
```

13. Design a class named Account that contains:

I. A private int data field named id for the account (default 0).
II. A private double data field named balance for the account (default 0).
III. A private double data field named annualInterestRate that stores the cur-rent interest rate (default 0). Assume all accounts have the same interest rate.
IV. A private Date data field named dateCreated that stores the date when the account was created.
V. A no-arg constructor that creates a default account.
VI. A constructor that creates an account with the specified id and initial balance.
VII. The accessor and mutator methods for id,balance, and annualInterestRate.

VIII. The accessor method for dateCreated.
IX. A method named getMonthlyInterestRate() that returns the monthly interest rate.
X. A method named getMonthlyInterest() that returns the monthly interest.
XI. A method named withdraw that withdraws a specified amount from the account.
XII. A method named deposit that deposits a specified amount to the account.

```
package Week5;

class Account {
    private int id = 0;
    private double balance = 0.0;
    private static double annualInterestRate = 0.0;
    private java.util.Date dateCreated;

    public Account() {
        dateCreated = new java.util.Date();
    }

    public Account(int id, double balace) {
        this();
        this.id = id;
        this.balance = balance;
    }

    public int getId() {
        return this.id;
    }

    public double getBalance() {
        return this.balance;
    }

    public double getAnnualInterestRate() {
        return annualInterestRate;
    }

    public String getDateCreated() {
        return this.dateCreated.toString();
    }

    public void setId(int id) {
        this.id = id;
    }

    public void setBalance(double balance) {
        this.balance = balance;
    }
```

```
    public void setAnnualInterestRate(double annualInterestRate) {
        this.annualInterestRate = annualInterestRate;
    }

    public double getMonthlyInterestRate() {
        return (annualInterestRate / 100) / 12 ;
    }

    public double getMonthlyInterest() {
        return balance * getMonthlyInterestRate();
    }

    public void withdraw(double amount) {
        this.balance -= amount;
    }

    public void deposit(double amount) {
        this.balance += amount;
    }
}
public class AccDrive {
    public static void main(String[] args) {
        Account account = new Account(1122, 20000);
        account.setAnnualInterestRate(4.5);
        account.withdraw(2500.0);
        account.deposit(3000.0);
        System.out.println("Balance: $" + account.getBalance());
        System.out.println("Monthly Interest: " +
account.getMonthlyInterest());
        System.out.println("Date Created: " + account.getDateCreated());

    }
}
Balance: $500.0
Monthly Interest: 1.875
Date Created: Sun Aug 25 10:29:13 IST 2019
```

14. Write a test program that prompts the user to enter the investment amount (e.g., 1000) and the interest rate (e.g., 9%), and print a table that displays future value for the years from 1 to 30, as shown below:

The amount invested: 1000
Annual interest rate: 9%
Years Future Value
1 1093.8
2 1196.41

…
29 13467.25
30 14730.57

```
package Week5;
import java.util.*;
class Amt
{
     Double x;
     Double sum=1000.0;
     Amt(Double x)
     {
          this.x=x;

     }
     void interest()
     {
          System.out.println("Years........future_value");
          for(int i=1;i<=30;i++)
          {
          System.out.println(i+"........"+sum(x,0.09/12,i));
          }
     }
          Double sum(Double tot,double rate,int years){
               return x*Math.pow(1+rate,years*12);
          }

}


class ADrive
{
     public static void main(String[] args) {
          Amt ob=new Amt(100.0);
          ob.interest();
     }
}
Years........future_value
1........109.38068976709839
2........119.64135293926222
3........130.86453709165366
4........143.1405333313711
5........156.56810269415706
6........171.25527068212796
7........187.32019633462298
8........204.89212282389357
9........224.1124172232252
10........245.13570781248114
11........268.1311280707507
```

```
12........293.28367736408916
13........320.7957092751521
14........350.888559548417
15........383.80432674789427
16........419.80781995281484
17........459.1886891606074
18........502.2637555363697
19........549.379560255814
20........600.9151524472612
21........657.2851386618252
22........718.9430184049334
23........786.3848325637133
24........860.1531540820313
25........940.8414529883785
26........1029.098870893479
27........1125.6354433687086
28........1231.2278122196296
29........1346.7254736101859
30........1473.057612304044
```

15. Write method headers for the following methods:

a. Computing a sales commission, given the sales amount and the commission rate.
b. Printing the calendar for a month, given the month and year.
c. Computing a square root.
d. Testing whether a number is even, and returning true if it is.
e. Printing a message a specified number of times.
f. Computing the monthly payment, given the loan amount, number of years, and annual interest rate.

(a) public static double getCommission(double salesAmount, double commissionRate)

(b) public static void printCalendar(int month, int year)

(c) public static double sqrt(double value)

(d) public static boolean isEven(int value)

(e) public static void printMessage(String message, int times)

(f) public static double monthlyPayment(double loan, int numberOfYears, double annualInterestRate)

16. Write a program that reads ten numbers, computes their average, and finds out how many numbers are above the average. [Use this keyword]

```
package Week5;
import java.util.*;
```

```
class B
{
	static int a[],n;
	B(int a[],int n)
	{
		this.a=a;
		this.n=n;
	}
	void calc()
	{
		int avg=0;
		int c=0;
		for(int i=0;i<n;i++)
			avg=avg+a[i];

		avg=avg/n;
		System.out.println("Average is :"+avg);
		for(int i=0;i<n;i++)
		{
		if(a[i]>avg)
		c++;
		}
		if(c>0)
			System.out.println("There are "+c+" numbers that are
above the average ");
		else
			System.out.println("There are no numbers that are below
the average ");
	}
}

class AvgDrive
{
	public static void main(String[] args) {
		Scanner sc=new Scanner(System.in);
		System.out.println("Enter n :");
		int n=sc.nextInt();
		int a[]=new int[n];
		for(int i=0;i<n;i++)
		{
			System.out.println("Enter number :");
			a[i]=sc.nextInt();

		}
		B obj=new B(a,n);
		obj.calc();

	}
```

```
}
Enter n :
3
Enter number :
55
Enter number :
66
Enter number :
77
Average is :66
There are 1 numbers that are above the average
```

17. Write a program that reads ten integers and displays them in the reverse of the order in which they were read.

```
package Week5;

class Num
{
     void rev(int[] num)
     {
      for(int i=9;i>=0;i--)
      {
          System.out.println ("in reverse order");
          System.out.println (num[i]);
     }
}
}

public class ReverseDrive
{
     public static void main(String[] args)
     {
          Num ob=new Num();
          int[] num={0,1,2,3,4,5,6,7,8,9};
          ob.rev(num);
     }
}
in reverse order
9
in reverse order
8
in reverse order
7
in reverse order
6
in reverse order
```

```
5
in reverse order
4
in reverse order
3
in reverse order
2
in reverse order
1
in reverse order
0
```

18. Write a program to demonstrate use of 'this' keyword.

```
package Week5;

class Student1{
     int rollno;
     String name;
     float fee;
     Student1(int rollno,String name,float fee){
          this.rollno=rollno;
          this.name=name;
          this.fee=fee;
     }
     void display()
     {
          System.out.println(rollno+" "+name+" "+fee);
     }
}

public class ThisDrive{

     public static void main(String args[]){
          Student1 s1=new Student1(100,"Soumya",3000f);
          Student1 s2=new Student1(101,"Avi",2000f);
          s1.display();
          s2.display();
     }
}
```

```
100 Soumya 3000.0
101 Avi 2000.0
```

19. Write a program to demonstrate use of 'static' keyword.

```
package Week5;

class Demo
{
```

```
    static void m1()
    {
        System.out.println("Demo of static");
    }
}
public class StaticDrive
{
    public static void main(String[] args)
    {
           Demo.m1();
    }
}
Demo of static
```

20. Write a program to accept value of apple sales for each day of the week (using array of type float) and then, calculate the average sale of the week.

```
package Week5;

class Sales
{
     int x;
     Double sum=0.0,avg;

     void week(double[] sales)
     {
      for(int i=1;i<=7;i++) {
      sum=sum+sales[i-1];
     }

     System.out.println ("Sum = "+sum);
     avg=sum/7.0;
     System.out.println ("Average sale of week="+avg);
     }

}

public class SalesDrive
{
     public static void main(String[] args) {
          Sales obj=new Sales();
          double[] sales={189.5,204.3,123.8,223.7,399.6,566.3,992.2};
          obj.week(sales);
     }
}
Sum = 2699.4
Average sale of week=385.62857142857143
```

21. Write program, which finds the sum of numbers formed by consecutive digits. Input : 2415 output : 24+41+15=80.

```
package Week5;

import java.util.*;
class Digit
{
     int x;
     int y=0,z=0,sum=0,m=0;
     Digit(int x)
     {
          this.x=x;

     }
     void num()
     {
     while (x>9)
     {
        y=x%10;
        x=x/10;
        z=x%10;
        m=z*10;
        sum=sum+y+m;
      }
   System.out.println("sum of numbers formed by consecutiv
digits="+sum);
     }

}

public class DigitDrive
{
     public static void main(String[] args) {
          Scanner sc=new Scanner(System.in);
          System.out.print("Enter a number:");
          int i=sc.nextInt();
          Digit obj=new Digit(i);
          obj.num();
     }
}
Enter a number:2415
sum of numbers formed by consecutiv digits=80
```