Program for payroll calculation

Ex_no:1 a

Aim:

Write a program to calculate employee payroll using arrays and structures. Create 2 classes to perform payroll calculation and for input and output display. Based on basic pay create array to calculate HRA, DA, MA, PF and net pay

Algorithms:

i. Create a 2 class with name of Employee and payroll system
ii. Create a variable of name, basic salary, hra, da, pf.
iii. Calculate the payroll and display using for loop to get input as mutiple
iv. Create a main function
v. Print the values stored in the result variable

Program:

```
import java.util.*;
 class Employee{
        private String name;
        private double basicsalary;
        private double hra;
        private double da;
        private double pf;
  public Employee(String name,double basicsalary) {
      this.name=name;
      this.basicsalary=basicsalary;
      calculatepayroll();
     }
```

Program for complex number

Ex_no:1 b

Aim:

Write a program for complex number operation using constructors

Algorithms:

i. Create a 2 class with name of Complex Number and Complex Number Demo
ii. Create a variable of real and imaginary
iii. Write a separate codes for addition, subtraction and multiplication for complex numbers
iv. Create a main function
v. Print the values stored in the result variable

Program:

```
class ComplexNumber
{
   private double real;
   private double imaginary;


   public ComplexNumber(double real, double imaginary)
   {
      this.real = real;
      this.imaginary = imaginary;
   }
   public ComplexNumber add(ComplexNumber other)
   {
```

Program for student marksheet

Ex_no:2

Aim:

Give an array of size N which contains the marks of a student in N subjects, the task is to calculate the CGPA of the student. Write a program for marksheet preparation using 3 classes to get, calculate and display mark statement using inheritance. Note: Consider all marks to be out of 100 for each subject.

Algorithms:

i. Create a 3 class with name of Input , Calculate and Main
ii. Create a variable of name, regno, mark1,mark2, mark3,mark4,mark5,total,avg
iii. Create a method getdata(),disdata() for input and display
iv. Create a main function in class Marksheet
v. Print the values stored in the result variable

Program:

```
import java.io.*;
class Input{
   String name,regno;
   void input ()throws IOException{
       BufferedReader data = new BufferedReader(new
InputStreamReader(System.in));
      System.out.print("Enter the name:");
      name=data.readLine();
      System.out.print("Enter the register number:");
      regno=data.readLine();
   }
}
```

PROGRAM FOR VOTER ELIGIBILITY

Ex_no:3 a

Aim:

Create an interface for declaring variables and methods and create two classes for performing calculation and execution to find voter eligibility.

Algorithms:

i. Create two class with a name EligibilityCalculator and VoterEligibilityExecution
ii. Create a variable called name and age
iii. Create a main function
iv. Run a program
v. Print the values stored in the result variable

Program:

```
interface VoterEligibility {
    void setDetails(String name, int age);
    boolean isEligible();
    void displayResult();
}
class EligibilityCalculator implements VoterEligibility {
    private String name;
    private int age;
    @Override
    public void setDetails(String name, int age) {
```

PROGRAM FOR OVERRIDIING

Ex_no:3 b

Aim:

Create a package for flat water maintenance bill, import the package in a class file to get input and display the final detailed bill. Note: Calculate water bill based on water consumption as given below: Rate (Rs/m^3), Charges (Rs) Usage (m^3), for 0 - 20 m^3 -> Rs.0.50/-, for 21 - 35 m^3->Rs.0.90/-, for > 35 m^3->Rs.1.30/-

Algorithms:

i. Create a class called Water Bill
ii. Create the variables consumption, ratePer Unit, total Bill
iii. Create input(),calculate(),display().
iv. Create a main function
v. Execute the program and display the values

Program:

```
import java.util.Scanner;
public class WaterBill {
   double consumption, ratePerUnit, totalBill;
   public void input() {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter the water consumption in cubic meters: ");
      this.consumption = scanner.nextDouble();
   }
   public void calculate() {
      if (consumption <= 10) {
         ratePerUnit = 5.0;
      } else if (consumption <= 20) {
         ratePerUnit = 7.5;
```

PROGRAM FOR OVERRIDIING

Ex_no:4 a

Aim:

Write a program to calculate the area of square, rectangle and triangle. Create a method area, perform method over riding and overloading using the method area.

Algorithms:

i. Create a class called shape and subclass called rectange
ii. Create the variables length, breadth base and height
iii. Implement the override method
iv. Create a main function
v. Execute the program and display the values

Program:

```
class Shape {
  public void area() {
    System.out.println("Calculating area for a generic shape.");
        }
}
class Square extends Shape {
        private double side;
        public Square(double side) {
                this.side = side;
        }
        @Override
        public void area() {
```