ASSIGNMENT-5
SUBJECT: FPL-2

U.NO.- UEC2021350

NAME: MANASI MILIND SANGAMNERKAR

SECTION-C

BATCH-C/3

DATE OF SUBMISSION: 05TH JULY,2022

Assignment No.: 5

Aim:

A company has many employees. An employee has employee Id, basic salary, house rent allowance, dearness allowance, profession tax and total salary. An employee has an address. The address has an apartment number, apartment name, road and PIN code. When an employee is appointed, he is assigned with an employee Id and basic salary.

Display all the details of the employees as per id and as per pin code. Display take home salary for all the employees, display the tax to be deducted across all employees. Test your program for ten employees

Input –
1. employee Id,
2. employee name,
3. address details(apartment number, apartment name, road and PIN code),
4. basic salary,

Output –
1. all the details of the employees as per id and as per pin code
2. take-home salary
3. tax to be deducted across all employees

Theory:
Create a class Person –
Field - Name, address details(apartment number, apartment name, road and PIN code),
Methods - Constructor, accept and display
Class Employee –
Inherits the Person class
Fields : Emp ID, grade, basic salary, Gross/Total Salary, HRA (House Rent Allowance) DA (Dearness Allowance)
Methods : Constructor, accept, display and gross-salary

The total salary of an employee is the summation of basic salary, house rent allowance(HRA) which is 20 percent of basic salary, dearness allowance(DA) which is 45 percent of basic salary.

HRA = 20% of basic salary
DA = 45% of basic salary
Gross or Total Salary = basic salary + HRA +DA

The take home salary is calculated after deducting profession tax which is 7 percent of basic salary from the total salary.

Income tax = 7% of basic salary
Take home salary = Total Salary - income tax

 One can ask for the total salary of the employee and take-home salary of the employee. Identify

a class/classes from the above statement, identify the attributes, the data types, the behaviour. e.g

if Basic = 8000

HRA = 20% of 8000 = 1600
DA = 45 % of 8000 = 3600
Gross/ Total salary = 8000 + 1600 + 3600 = 13200

Income tax = 7% of 8000 = 560
Take home salary = 13200 - 560 = 12640

Outcomes –

The learner should be able to

1. Apply Inheritance concept
2. Use do-while, if – else if construct
3. Use String and Arrays
4. use user defined functions

SCREENSHOT OF CODE AND OUTPUT:

```java
import java.util.Scanner;
3 usages   1 inheritor
class person
{
    2 usages
    int pin;
    2 usages
    String apartmentName,apartmentNumber,road,name;
    8 usages
    Scanner sc=new Scanner(System.in);

    2 usages   1 override
    void accept()
    {
        System.out.println("NAME:");
        name = sc.nextLine();

        System.out.println("\nADDRESS DETAILS\n APARTMENT NAME: ");
        apartmentName=sc.nextLine();

        System.out.println("\n APARTMENT NUMBER:");
        apartmentNumber=sc.nextLine();

        System.out.println("\n ROAD NAME:");
        road=sc.nextLine();

        System.out.println("\n PIN CODE:");
        pin=sc.nextInt();
        sc.nextLine();
    }

    2 usages   1 override
    void display()
```

```java
        pin=sc.nextInt();
        sc.nextLine();
    }

    2 usages   1 override
    void display()
    {
        System.out.println("\n EMPLOYEE NAME:"+name+"\n ADDRESS:"+apartmentNumber+","+apartmentName+","+road+","+pin);
    }
}

3 usages
class employee extends person
{
    6 usages
    double basicSalary;
    2 usages
    String empId;
    2 usages
    double houseAllowance,dearAllowance,tax,home,gross;

    //accepting of all values including basic salary
    2 usages
    void accept()
    {  super.accept();

        System.out.println("ENTER THE EMPLOYEE ID:");
        empId=sc.next();

        System.out.println("ENTER THE BASIC SALARY:");
        basicSalary=sc.nextDouble();
    }
```

```java
    2 usages
    void gross()
    {
        tax=0.07*basicSalary;
        houseAllowance=0.2*basicSalary;
        dearAllowance=0.45*basicSalary;
        gross= basicSalary+houseAllowance+dearAllowance;
        home=gross-tax;
    }
    //display of all attributes including gross
    1 usage
    void tax()
    {
        gross();
        System.out.println("THE TAX TO BE DEDUCTED:"+tax);
    }

    1 usage
    void home(){
        gross();
        System.out.println("TAKE HOME SALARY:"+home);
    }

    2 usages
    void display()1
    {
        super.display();
        System.out.println("EMPLOYEE ID:"+empId);
        System.out.println("BASIC SALARY:"+basicSalary);
    }
}
```

```java
    }
}

public class Main{
    public static void main(String[]args){

        Scanner sc=new Scanner(System.in);
        int i=0,n=0,a=0,ch,d;

        System.out.println("Enter number of employees:");
        n=sc.nextInt();
        employee[]obj=new employee[n];
        person[]obj_1=new person[a];
        for(i=0;i<n;i++)
        {
            obj[i]= new employee ();
            System.out.println("Employee"+(i+1)+":");
            obj[i].accept();

        }

        do{
            System.out.println("INFORMATION REQUIRED:");
            System.out.println("1.DISPLAY DETAILS OF EMPLOYEE\n2.DISPLAY TAX TO BE DEDUCTED\n3.DISPLAY TAKE HOME SALARY\nENTER YOUR CHOICE:")
            ch=sc.nextInt();
            switch(ch)
            {
                case 1:System.out.println("DETAILS OF ALL EMPLOYEE:");
                    for(i=0;i<n;i++)
                    {
                        System.out.println("\nEMPLOYEE"+(i+1)+":");
                        obj[i].display();
```

```java
                obj[i].display();
            }
            break;

        case 2:

            System.out.println("TAX TO BE DEDUCTED:");
            for(i=0;i<n;i++)
            {
                obj[i].tax();
            }
            break;

        case 3:

            System.out.println("TAKE HOME SALARY :");
            for(i=0;i<n;i++)
            {

                obj[i].home();
            }
            break;

        default: System.out.println("INVALID CHOICE");
    }

    System.out.println("press 1 to continue else press 0 to exit");

    d=sc.nextInt();
    }
    while(d==1);
```
```java
            System.out.println("TAKE HOME SALARY :");
            for(i=0;i<n;i++)
            {

                obj[i].home();
            }
            break;

        default: System.out.println("INVALID CHOICE");
    }

    System.out.println("press 1 to continue else press 0 to exit");

    d=sc.nextInt();
    }
    while(d==1);

    }
}
```

SCREENSHOT OF OUTPUT:


```
person[obj_1=new person[a];
    for(i=0;i<n;i++)

Run:    Main

Enter number of employees:
1
Employee1:
NAME:
TONY STARK

ADDRESS DETAILS
 APARTMENT NAME:
10880

 APARTMENT NUMBER:
10880

 ROAD NAME:
MALIBU

 PIN CODE:
90265
ENTER THE EMPLOYEE ID:
MARK5
ENTER THE BASIC SALARY:
98000
INFORMATION REQUIRED:
1.DISPLAY DETAILS OF EMPLOYEE
2.DISPLAY TAX TO BE DEDUCTED
3.DISPLAY TAKE HOME SALARY
ENTER YOUR CHOICE:
1
DETAILS OF ALL EMPLOYEE:
```



```
person[obj_1=new person[a];
    for(i=0;i<n;i++)

Run:    Main

EMPLOYEE1:

 EMPLOYEE NAME:TONY STARK
 ADDRESS:10880,10880,MALIBU,90265
EMPLOYEE ID:MARK5
BASIC SALARY:98000.0
press 1 to continue else press 0 to exit
1
INFORMATION REQUIRED:
1.DISPLAY DETAILS OF EMPLOYEE
2.DISPLAY TAX TO BE DEDUCTED
3.DISPLAY TAKE HOME SALARY
ENTER YOUR CHOICE:
2
TAX TO BE DEDUCTED:
THE TAX TO BE DEDUCTED:6860.000000000001
press 1 to continue else press 0 to exit
1
INFORMATION REQUIRED:
1.DISPLAY DETAILS OF EMPLOYEE
2.DISPLAY TAX TO BE DEDUCTED
3.DISPLAY TAKE HOME SALARY
ENTER YOUR CHOICE:
3
TAKE HOME SALARY :
TAKE HOME SALARY:154840.0
press 1 to continue else press 0 to exit
0

Process finished with exit code 0
```

******END OF ASSIGNMENT 5********