ASSIGNMENT 5

Java Program: Create an employee database using inheritance which would calculate and display the details according to the grade of an employee.

Menu:

1. **Details of all employees**
2. **Details as per employee ID**
3. **Details as per grade**
4. **Exit**

Basic Salary

For A = 90,000 For B = 80,000 For C = 70,000 For D = 60,000

HRA = 20% DA = 45% Income Tax = 25, 20, 15, 10%

Calculate Take Home Salary.

Algorithm:

1. Create a superclass Employee_Details and create the arrays for inputting the details of the employees like employee_id, name, grade, base_salary and total_pay.
2. Create four subclasses for each grade A, B, C, D respectively and calculate the total salary of the employee based on his/her grade, add HRA and DA, deduct the tax and return the salary using a method.
3. Inside the superclass create a method for inputting and displaying the details of all the employees.
4. Inside the main method create objects for all the sub classes created.
5. Using a do while loop display the menu option to the user and input the user's choice using a scanner class.
6. Use a switch case to display the chosen option.

Code:

```
package employee_database;

class GradeA extends Employee_Details {
	void inhand(int i, double base_salary[], double total_pay[]) {
		total_pay[i] = base_salary[i] + base_salary[i]*0.2 +
base_salary[i]*0.45 - base_salary[i]*0.25;
		System.out.println("The take home salary is : " +
total_pay[i]);
	}
}
```

```
package employee_database;

class GradeB extends Employee_Details {
	void inhand(int i, double base_salary[], double total_pay[]) {
		total_pay[i] = base_salary[i] + base_salary[i]*0.2 +
base_salary[i]*0.45 - base_salary[i]*0.2;
		System.out.println("The take home salary is : " +
total_pay[i]);
	}

}
```

```
package employee_database;

class GradeC extends Employee_Details {
	void inhand(int i, double base_salary[], double total_pay[]) {
		total_pay[i] = base_salary[i] + base_salary[i]*0.2 +
base_salary[i]*0.45 - base_salary[i]*0.15;
		System.out.println("The take home salary is : " +
total_pay[i]);
	}

}
```

```
package employee_database;

class GradeD extends Employee_Details {
	void inhand(int i, double base_salary[], double total_pay[]) {
		total_pay[i] = base_salary[i] + base_salary[i]*0.2 +
base_salary[i]*0.45 - base_salary[i]*0.1;
		System.out.println("The take home salary is : " +
total_pay[i]);
	}

}
```

```
package employee_database;
import java.util.Scanner;

public class Employee_Details {
	Scanner sc = new Scanner(System.in);

	static int n;
	static int employee_id[] = new int[20];
```

```
	static String name[]= new String[20];
	static String grade[] = new String[20];
	static double base_salary[] = new double[20];
	static double total_pay[] = new double[20];


	void input(int i){

		System.out.print("\t Create new Employee ID : ");
		employee_id[i] = sc.nextInt();
		System.out.print("\t Enter Name of Employee : ");
		sc.nextLine();
		name[i] = sc.nextLine();
	  System.out.print("\t Enter grade of Employee [A/B/C/D] : ");
		grade[i] = sc.nextLine();
		System.out.print("\t [A = 90000, B = 80000 C = 70000 D =
60000]");
		System.out.print("\t Enter Base Salary acc. to Grade [A/B/C/D]
: ");
		base_salary[i] = sc.nextDouble();
	}

	void display(int i) {

		System.out.println("\n\t Employee ID : " + employee_id[i]);
		System.out.println("\t Name of Employee : " + name[i]);
	  System.out.println("\t Grade of Employee : " + grade[i]);
	  System.out.println("\t Base Pay of Employee : " + base_salary[i]);

	}


	public static void main(String[] args) {

		Employee_Details obj = new Employee_Details();
		GradeA sa = new GradeA();
		GradeB sb = new GradeB();
		GradeC sc = new GradeC();
		GradeD sd = new GradeD();

		 System.out.println("Enter number of employees : ");
		  n = obj.sc.nextInt();

		  for (int i = 0; i < n; i++) {
			System.out.println("\nEnter the details of Employee " +
(i + 1));
			obj.input(i);
		  }

	  int choice;

		do {
			System.out.println("\n\nChoose the operation you want to
perform");
			System.out.println("0. Exit");
			System.out.println("1. Display details of all
employees");
			System.out.println("2. Display details according to
Employee ID");
			System.out.println("3. Display details according to
grade");
```

```
                    choice = obj.sc.nextInt();
                    int i = 0;
                    switch (choice)
                    {
                    case 0:
                          System.out.println("Goodbye and Have a great
day!");
                          break;

                    case 1:
                          for(i=0; i<n; i++) {
                                obj.display(i);
                          }
                          break;

                    case 2:
                          System.out.println("Enter Employee ID : ");
                          int id = obj.sc.nextInt();
                          if(id == employee_id[i]) {
                                obj.display(i);
                          }
                          else {
                                System.out.println("Enter correct Employee
ID.");
                          }
                          break;

                    case 3:
                        System.out.println("Enter Grade [A/B/C/D] : ");
                        obj.sc.nextLine();
                        String gr = obj.sc.nextLine();
                        for(i=0; i<n; i++) {
                            if(gr.equals(grade[i])) {
                                if(grade[i].equals("A")) {
                                    obj.display(i);
                                    sa.inhand(i, base_salary, total_pay);
                                }
                                else if(grade[i].equals("B")) {
                                    obj.display(i);
                                    sb.inhand(i, base_salary, total_pay);
                                }
                                else if(grade[i].equals("C")) {
                                    obj.display(i);
                                    sc.inhand(i, base_salary, total_pay);
                                }
                                else if(grade[i].equals("D")) {
                                    obj.display(i);
                                    sd.inhand(i, base_salary, total_pay);
                                }
                                else {
                                    System.out.println("Enter the correct
grade [A/B/C/D].");
                                }
                            }
                        }
                        break;

                    default:
                          System.out.println("Enter a valid option");
```

```
                }
            }
            while (choice != 0);


        }
}
```

Output:

```
Enter number of employees :
5

Enter the details of Employee 1
       Create new Employee ID : 101
       Enter Name of Employee : Doraemon
       Enter grade of Employee [A/B/C/D] : A
       [A = 90000, B = 80000 C = 70000 D = 60000]
Enter Base Salary acc. to Grade [A/B/C/D] : 90000

Enter the details of Employee 2
       Create new Employee ID : 202
       Enter Name of Employee : Nobita
       Enter grade of Employee [A/B/C/D] : D
       [A = 90000, B = 80000 C = 70000 D = 60000]
Enter Base Salary acc. to Grade [A/B/C/D] : 60000

Enter the details of Employee 3
       Create new Employee ID : 303
       Enter Name of Employee : Shizuka
       Enter grade of Employee [A/B/C/D] : A
       [A = 90000, B = 80000 C = 70000 D = 60000]
Enter Base Salary acc. to Grade [A/B/C/D] : 90000

Enter the details of Employee 4
       Create new Employee ID : 404
       Enter Name of Employee : Gian
       Enter grade of Employee [A/B/C/D] : C
       [A = 90000, B = 80000 C = 70000 D = 60000]
Enter Base Salary acc. to Grade [A/B/C/D] : 70000

Enter the details of Employee 5
       Create new Employee ID : 505
       Enter Name of Employee : Suneo
       Enter grade of Employee [A/B/C/D] : B
       [A = 90000, B = 80000 C = 70000 D = 60000]
Enter Base Salary acc. to Grade [A/B/C/D] : 80000



Choose the operation you want to perform
0. Exit
1. Display details of all employees
2. Display details according to Employee ID
3. Display details according to grade
1
```

```
        Employee ID : 101
        Name of Employee : Doraemon
        Grade of Employee : A
        Base Pay of Employee : 90000.0

        Employee ID : 202
        Name of Employee : Nobita
        Grade of Employee : D
        Base Pay of Employee : 60000.0

        Employee ID : 303
        Name of Employee : Shizuka
        Grade of Employee : A
        Base Pay of Employee : 90000.0

        Employee ID : 404
        Name of Employee : Gian
        Grade of Employee : C
        Base Pay of Employee : 70000.0

        Employee ID : 505
        Name of Employee : Suneo
        Grade of Employee : B
        Base Pay of Employee : 80000.0


Choose the operation you want to perform
0. Exit
1. Display details of all employees
2. Display details according to Employee ID
3. Display details according to grade
2
Enter Employee ID :
101

        Employee ID : 101
        Name of Employee : Doraemon
        Grade of Employee : A
        Base Pay of Employee : 90000.0


Choose the operation you want to perform
0. Exit
1. Display details of all employees
2. Display details according to Employee ID
3. Display details according to grade
2
Enter Employee ID :
696
Enter correct Employee ID.



Choose the operation you want to perform
0. Exit
1. Display details of all employees
2. Display details according to Employee ID
3. Display details according to grade
3
Enter Grade [A/B/C/D] :
```

```
A

       Employee ID : 101
       Name of Employee : Doraemon
       Grade of Employee : A
       Base Pay of Employee : 90000.0
The take home salary is : 126000.0

       Employee ID : 303
       Name of Employee : Shizuka
       Grade of Employee : A
       Base Pay of Employee : 90000.0
The take home salary is : 126000.0


Choose the operation you want to perform
0. Exit
1. Display details of all employees
2. Display details according to Employee ID
3. Display details according to grade
3
Enter Grade [A/B/C/D] :
B

       Employee ID : 505
       Name of Employee : Suneo
       Grade of Employee : B
       Base Pay of Employee : 80000.0
The take home salary is : 116000.0


Choose the operation you want to perform
0. Exit
1. Display details of all employees
2. Display details according to Employee ID
3. Display details according to grade
3
Enter Grade [A/B/C/D] :
C

       Employee ID : 404
       Name of Employee : Gian
       Grade of Employee : C
       Base Pay of Employee : 70000.0
The take home salary is : 105000.0


Choose the operation you want to perform
0. Exit
1. Display details of all employees
2. Display details according to Employee ID
3. Display details according to grade
3

Enter Grade [A/B/C/D] :
D
       Employee ID : 202
       Name of Employee : Nobita
       Grade of Employee : D
       Base Pay of Employee : 60000.0
The take home salary is : 93000.0
```

```
Choose the operation you want to perform
0. Exit
1. Display details of all employees
2. Display details according to Employee ID
3. Display details according to grade
3
Enter Grade [A/B/C/D] :
H


Choose the operation you want to perform
0. Exit
1. Display details of all employees
2. Display details according to Employee ID
3. Display details according to grade
0
Goodbye and Have a great day!
```