Experiment 1

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Subject Name: PBLJ LAB	**Subject Code: 22CSH-359**

1. **Aim:** Create an application to save the employee information using arrays and which accepts employee id from the command prompt and displays the employee details along with his salary.

2. **Objective:**
   i.   To learn about Array Data Structure.
   ii.   To calculate the salary with respect to the formula (Basic + HRA + DA – Income Tax).
   iii. Streamlined Decision-Making for HR , the program assists HR teams in making informed decisions regarding payroll, promotions, and budgeting.

3. **Problem Statement:** Design and implement a Employee Management System that allows users to manage employee records effectively.

4. **Implementation/Code:**
   ~ Employee.java

```java
package com;

public class Employee {
    public int EmpNo;
    public String EmpName;
    public String JoinDate;
    public char DesignationCode;
    public String Department;
    public int Basic;
    public int HRA;
    public int IT;

    public Employee(int EmpNo,String EmpName, String JoinDate,char
            DesignationCode, String Department,int Basic, int HRA,int IT) {
        this.EmpNo = EmpNo;
        this.EmpName = EmpName;
        this.JoinDate = JoinDate;
        this.DesignationCode = DesignationCode;
        this.Department = Department;
        this.Basic = Basic;
        this.HRA = HRA;
        this.IT = IT;
    }
```

```java
    public void retrieveData(String designation,int DA)
       { int Salary = Basic + HRA - IT + DA;
       System.out.println("Emp No\t" + "Name\t" + "Dpt.\t" + "Dsgn.\t" + "Salary");
       System.out.println(EmpNo + "\t" + EmpName + "\t" + Department + "\t" +
designation + "\t" + Salary);
    }
}
```

~Designation.java

```java
package com;

public class Designation {
    public char DesignationCode;
    public String Designation;
    public int DA;

    public Designation(char Dsgcode,String dsg,int DA)
       { this.DesignationCode = Dsgcode;
       this.Designation = dsg;
       this.DA = DA;
    }
}
```

~App.java

```java
import com.Designation;
import com.Employee;
import java.util.Scanner;

public class App {
    public static int getIndex(Employee[] emp,int value)
       { int k = -1;
       for(int i = 0;i < emp.length; i++) {
          if(emp[i].EmpNo == value) {
             k = i;
             break;
          }
       }
       if(k == -1) {
          System.out.println("There is no employee with empID: "+ value);
       }
       return k;
    }
    public static Designation findDesg(char code,Designation[] dsg) {
       for(Designation d : dsg) {
```

```java
            if(d.DesignationCode == code) {
                return d;
            }
        }
        return null;
    }

    public static void main(String[] args) throws Exception {
        System.out.println("Welcome to employee management system !!\nDivyanshu Jaiswal\t22BCS12806");
        Scanner sc = new Scanner(System.in);

        Employee[] emp = {
            new Employee(1001, "Ashish", "01/04/2009", 'e', "R&D", 20000, 8000, 3000),
            new Employee(1002, "Sushma", "23/08/2012", 'c', "PM", 30000, 12000, 9000),
            new Employee(1003, "Rahul", "12/11/2008", 'k', "Actt", 10000, 8000, 1000),
            new Employee(1004, "Chahat", "29/01/2013", 'r', "Front Desk", 12000, 6000, 2000),
            new Employee(1005, "Ranjan", "16/07/2005", 'm', "Engg", 50000, 20000, 20000),
            new Employee(1006, "Suman", "01/01/2000", 'e', "Manufacturing", 23000, 9000, 4400),
            new Employee(1007, "Tanmay", "12/06/2006", 'c', "PM", 29000, 12000, 10000)
        };
        Designation[] dsg = {
            new Designation('e', "Engineer",20000),
            new Designation('c', "Consultant",32000),
            new Designation('k', "Clerk",12000),
            new Designation('r', "Receptionist",15000),
            new Designation('m', "Manager",40000)
        };

        System.out.println("Enter the employee ID to print its
        data:"); int n = sc.nextInt();
        int index = getIndex(emp,n);

        if(index != -1) {
            char designationcode = emp[index].DesignationCode;
            Designation obj = findDesg(designationcode,dsg);
            String dsgnation = obj.Designation; int DA = obj.DA;

            emp[index].retrieveData(dsgnation,DA);
        }
        sc.close();
    }
}
```

5. Output:

```
∨ TERMINAL

● PS D:\cu\code\.vscode\.cu experiment\java\Experiment-1>  & 'C:\Prc
  experiment\java\Experiment-1\bin' 'App'
  Welcome to employee management system !!
  Divyanshu Jaiswal        22BCS12806
  Enter the employee ID to print its data:
  123
  There is no employee with empID: 123
● PS D:\cu\code\.vscode\.cu experiment\java\Experiment-1>  d:; cd 'c
  CodeDetailsInExceptionMessages' '-cp' 'D:\cu\code\.vscode\.cu expe
  Welcome to employee management system !!
  Divyanshu Jaiswal        22BCS12806
  Enter the employee ID to print its data:
  1003
  Emp No   Name     Dpt.     Dsgn.    Salary
  1003     Rahul    Actt     Clerk    29000
○ PS D:\cu\code\.vscode\.cu experiment\java\Experiment-1> ▎
```

6. Learning Outcomes:

i.   Use of array, array of objects.
ii. Use of class and packages.
iii. Use of Scanner class for taking input.