Practical - 02

==========

Student Name : Vinni Fengade

Roll No. : 67

Sem & Sec : 4 CSE [B]

Course Name : Object Oriented Programming (CSP256)

Date Compiled : 23-April-2022

==========

Problem Statements:

---

1. Write a program to demonstrate Array of Objects

An Employee Attendance Management System (EMS) has to be designed. The system maintains following information

Employee : id, name, age, designation, salary, Attendance [] – array to maintain day-wise attendance of an employee

Attendance

date

time in (in 24 hours format HH MM)

time out (in 24 hours format HH MM)

Attendance Generator

Class that implements all the functionalities mentioned below

WAP to implement following functionalities of EMS

1. Display month wise attendance of an employee
2. Display the number of working hours of an employee for a given date
3. Count Number of working days for an employee

Code

File :**Practical2.java**

```
package com.mycompany.practical2;


public class Practical2 {
    public static void main(String[] args) {
        Employee []E = new Employee[3];
        Attendance arr[]=new Attendance[3];
        arr[0]= new Attendance("2022-04-02","14:30:00","18:30:00");
        arr[1]= new Attendance("2022-04-01","08:30:00","18:30:00");
        arr[2]= new Attendance("2022-03-05","08:30:00","18:30:00");


        E[0]= new Employee(11,20,50000,"Labour",arr);
        E[1]= new Employee(12,22,45000,"Labour",arr);
        E[2]= new Employee(13,28,30000,"Labour",arr);
        //System.out.println("gggg");

//    1.Display month wise attendance of an employee
        E[0].displayGetMonthwiseWorkingdays();

//2.    Display the number of working hours of an employee for a given date
        E[0].getWorkingHours("2022-03-05");

//3.    Count Number of working days for an employee
        E[0].displayGetWorkingdays();
    }
}
```

File :**Employee**

```
package com.mycompany.practical2;
import java.time.Duration;
import java.time.LocalDate;

public class Employee {
    int id,age,salary,daycnt;
    String designation;
    Attendance a[]=new Attendance[3];
    LocalDate D;
    int count[] = new int[13];

    Employee(int id,int age,int salary,String designation,Attendance []arr){
        this.id=id;
        this.age=age;
        this.designation=designation;
        this.a=arr;
    }

    void getWorkingdays(){
        for(int j=0;j<3;j++){
            int iii;
            iii = this.a[j].date.getMonthValue();
            count[iii]+=1;
            daycnt++;
       }
    }

    void displayGetMonthwiseWorkingdays(){
        getWorkingdays();
        System.out.println(" Month-Wise Attendance :- Employee ["+id+"]");
        System.out.println("January    : " + count[1]);
        System.out.println("February   : " + count[2]);
        System.out.println("March      : " + count[3]);
        System.out.println("April      : " + count[4]);
```

```
        System.out.println("May        : " + count[5]);
        System.out.println("June       : " + count[6]);
        System.out.println("July       : " + count[7]);
        System.out.println("August     : " + count[8]);
        System.out.println("September  : " + count[9]);
        System.out.println("October    : " + count[10]);
        System.out.println("November   : " + count[11]);
        System.out.println("December   : " + count[12]);
    }

    void displayGetWorkingdays(){
        System.out.println(" No. of Working Days for Employee ["+id+"]
                                                                    :"+daycnt);
    }

    void getWorkingHours(String Date){
        this.D = LocalDate.parse(Date);
        Duration d;
        for(int i=0;i<3;i++){
        if(D.equals(a[i].date)){
            d = Duration.between(a[1].tin,a[1].tout);
            System.out.println(" Working Hours for Employee ["+id+"] on
                                            "+D+"  : "+ d.toHours()+" hrs");
            }
        }
    }

}
```

File : **Attendance**

```
package com.mycompany.practical2;


import java.time.Duration;

import java.time.LocalDate;

import java.time.LocalTime;


public class Attendance {

    LocalDate date;

    LocalTime tin,tout;


    public Attendance() {

    }


    public Attendance(String date,String tin,String tout){

        this.date22=date;

        this.date = LocalDate.parse(date);

        String[] s =tin.split(":");

this.tin=LocalTime.of(Integer.parseInt(s[0]),Integer.parseInt(s[1]),Integer.pars
eInt(s[2]));

    s =tout.split(":");


this.tout=LocalTime.of(Integer.parseInt(s[0]),Integer.parseInt(s[1]),Integer.par
seInt(s[2]));

        //this.display();

    }

    public void display(){

        System.out.println("Date - "+date.toString()+"Time In:
"+tin.toString()+"Time Out: "+ tout.toString());

    }


}
```

Execution


Output - Run (Practical2)
cd C:\Users\User\Documents\NetBeansProjects\Practical2; "JAVA_HOME=C:\\Program Files\\Java\\jdk-17.0.1" cmd
Running NetBeans Compile On Save execution. Phase execution is skipped and output directories of dependency
Scanning for projects...
----------------< com.mycompany.practical2:Practical2 >-----------------
Building Practical2 1.0-SNAPSHOT
--------------------------------[jar]---------------------------------
--- exec-maven-plugin:3.0.0:exec (default-cli) @ Practical2 ---
Month-Wise Attendance :- Employee [11]
January : 0
February : 0
March : 1
April : 2
May : 0
June : 0
July : 0
August : 0
September : 0
October : 0
November : 0
December : 0
Working Hours for Employee [11] on 2022-03-05 : 10 hrs
No. of Working Days for Employee [11] :3

BUILD SUCCESS
