ASSIGNMENT No: - 3

AIM: -Design a class named weather report that holds a daily weather report with data members day_of_month, hightemp, lowte mp, amount_rain and amount_snow. Use different types of constructors to initialize the objects. Write a program to generate a monthly report that displays the average of each attribute.

PROGRAM: -

Part A: - Taking Inputs from user and displaying: -

```
import java.util.Scanner;


class WeatherReport{
   float highTemp;
   float lowTemp;
   float amountRain;
   float amountSnow;
   String date;
   String city;


   WeatherReport(){
      getData();
   }
   WeatherReport(float high , float low, float rain ,float snow , String
day , String name ){
      highTemp = high;
      lowTemp = low;
```

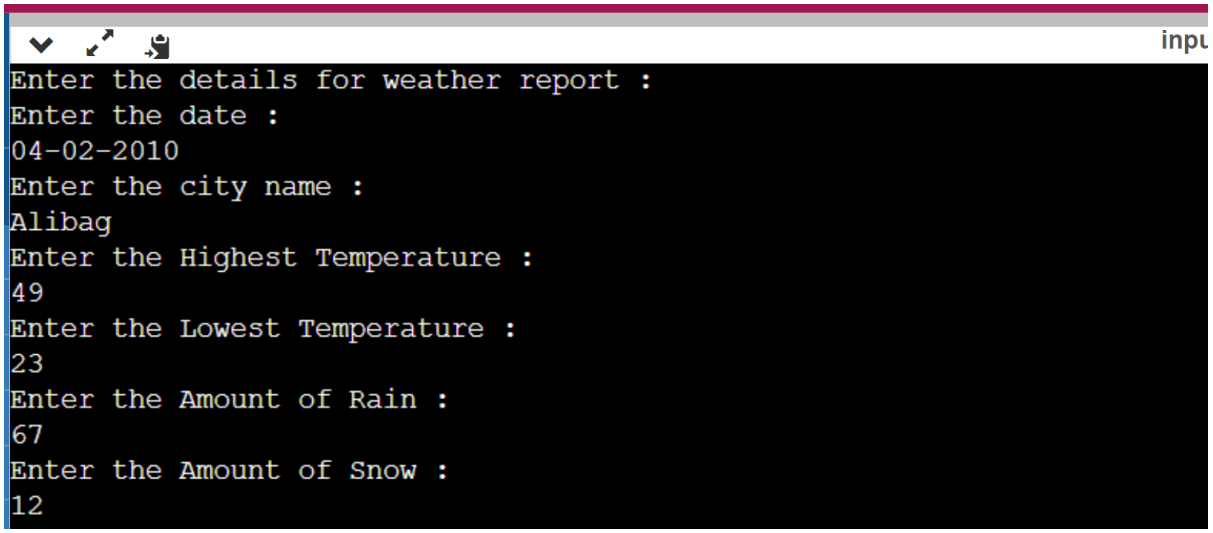
```
        amountRain = rain;
        amountSnow = snow;
        date = day;
        city = name;
    }
    void getData(){
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the date : ");
        date = sc.nextLine();
        System.out.println("Enter the city name : ");
        city = sc.nextLine();
        System.out.println("Enter the Highest Temperature : ");
        highTemp = sc.nextFloat();
        System.out.println("Enter the Lowest Temperature : ");
        lowTemp = sc.nextFloat();
        System.out.println("Enter the Amount of Rain : ");
        amountRain = sc.nextFloat();
        System.out.println("Enter the Amount of Snow : ");
        amountSnow = sc.nextFloat();
    }
    void printData(){
        System.out.println("Date\t\t CityName\t HighestTemperature\t
LowestTemperature\t Amount of Rain\t Amount of Snow\t");
```

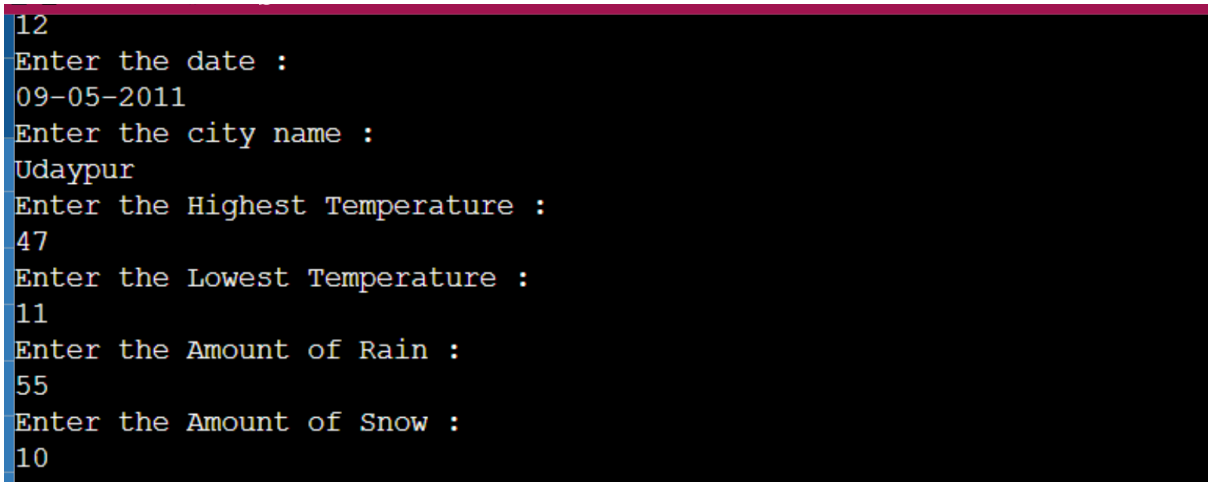
```
        System.out.println(date + "\t " + city + "\t\t\t" + highTemp +
"\t\t\t" + lowTemp + "\t\t\t" + amountRain + "\t\t" + amountSnow);
    }
}

public class Main
{
        public static void main(String[] args) {
        System.out.println("Enter the details for weather report : ");
        WeatherReport[] arr;
        arr = new WeatherReport[5];
        float highTemp;
        float lowTemp;
        float amountRain;
        float amountSnow;
        String date;
        String city;
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the date : ");
        date = sc.nextLine();
        System.out.println("Enter the city name : ");
        city = sc.nextLine();
        System.out.println("Enter the Highest Temperature : ");
        highTemp = sc.nextFloat();
```

```
        System.out.println("Enter the Lowest Temperature : ");
        lowTemp = sc.nextFloat();
        System.out.println("Enter the Amount of Rain : ");
        amountRain = sc.nextFloat();
        System.out.println("Enter the Amount of Snow : ");
        amountSnow = sc.nextFloat();
        arr[0] = new WeatherReport(highTemp , lowTemp , amountRain
, amountSnow , date , city);
        for(int i=1;i<5;i++){
            arr[i] = new WeatherReport();
        }
        System.out.println("Weather Report");
        for(int i=0;i<5;i++){
            arr[i].printData();
        }
    }
}
```

OUTPUT: -

Part A: -





```
55
Enter the Amount of Snow :
10
Enter the date :
15-04-2013
Enter the city name :
Udaypur
Enter the Highest Temperature :
44
Enter the Lowest Temperature :
21
Enter the Amount of Rain :
9
Enter the Amount of Snow :
55
```

```
Weather Report
Date            CityName        HighestTemperature      LowestTemperature       Amount of Rain  Amount of Snow
04-02-2010      Alibag                  49.0                    23.0                    67.0            12.0
Date            CityName        HighestTemperature      LowestTemperature       Amount of Rain  Amount of Snow
09-05-2011      Udaypur                 47.0                    11.0                    55.0            10.0
Date            CityName        HighestTemperature      LowestTemperature       Amount of Rain  Amount of Snow
15-04-2013      Udaypur                 44.0                    21.0                    9.0             55.0


...Program finished with exit code 0
Press ENTER to exit console.
```

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Part B: - Calculating high temperature, low temperature, rain average, snow average etc: -

Program: -

```
import java.util.Scanner;


class WeatherReport{
   float highTemp;
   float lowTemp;
   float amountRain;
   float amountSnow;
   String date;


   WeatherReport(){
      getData();
   }
   WeatherReport(float high , float low, float rain ,float snow , String day){
      highTemp = high;
      lowTemp = low;
      amountRain = rain;
      amountSnow = snow;
      date = day;
   }
```

```
    void getData(){
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the date : ");
        date = sc.nextLine();
        System.out.println("Enter the Highest Temperature : ");
        highTemp = sc.nextFloat();
        System.out.println("Enter the Lowest Temperature : ");
        lowTemp = sc.nextFloat();
        System.out.println("Enter the Amount of Rain : ");
        amountRain = sc.nextFloat();
        System.out.println("Enter the Amount of Snow : ");
        amountSnow = sc.nextFloat();
    }
    void printData(){
        System.out.println("Date\t\t HighestTemperature\t
LowestTemperature\t Amount of Rain\t Amount of Snow\t");
        System.out.println(date +"\t\t" + highTemp + "\t\t\t" + lowTemp
+ "\t\t\t" + amountRain + "\t\t" + amountSnow);
    }
}
public class Main
{
    static void findAvg(WeatherReport[] arr){
        int n = arr.length;
```

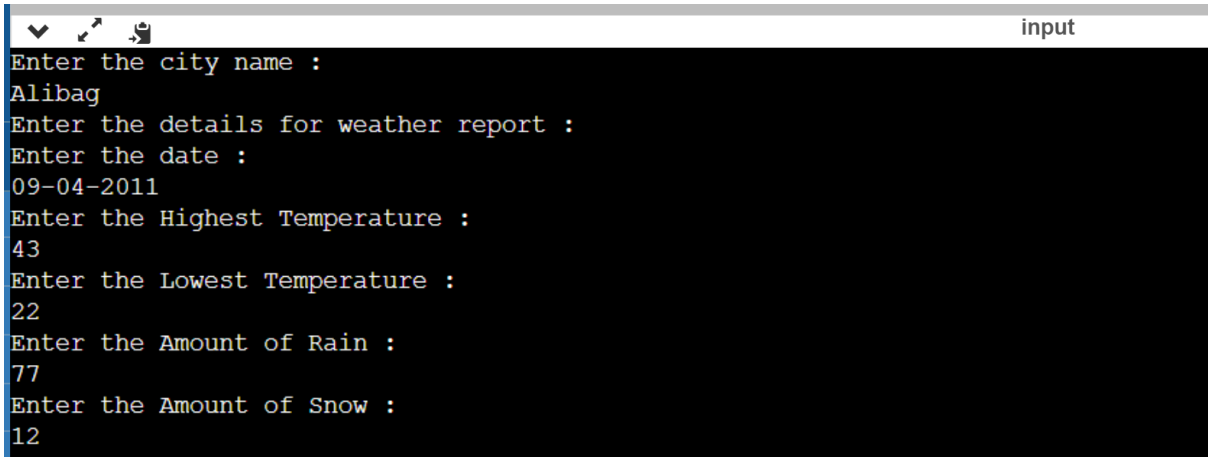
```
        float highTempAvg = 0;
        float lowTempAvg = 0;
        float rainAvg = 0;
        float snowAvg = 0;
        for(int i=0;i<arr.length;i++){
            highTempAvg += arr[i].highTemp;
            lowTempAvg += arr[i].lowTemp;
            rainAvg += arr[i].amountRain;
            snowAvg += arr[i].amountSnow;
        }
        highTempAvg = highTempAvg / n;
        lowTempAvg = lowTempAvg / n;
        rainAvg = rainAvg / n;
        snowAvg = snowAvg / n;
        System.out.println("The HighTemperature average is " +
highTempAvg + "\nThe LowestTemperature average is " +
lowTempAvg + "\nThe Amount rain average is " + rainAvg + "\nThe
Amount snow average is " + snowAvg);
    }
    static void getMax(WeatherReport[] arr){
        int n = arr.length;
        float maxHigh = 0;
        float maxLow = arr[0].lowTemp;
        float maxRain = 0;
        float maxSnow = 0;
```

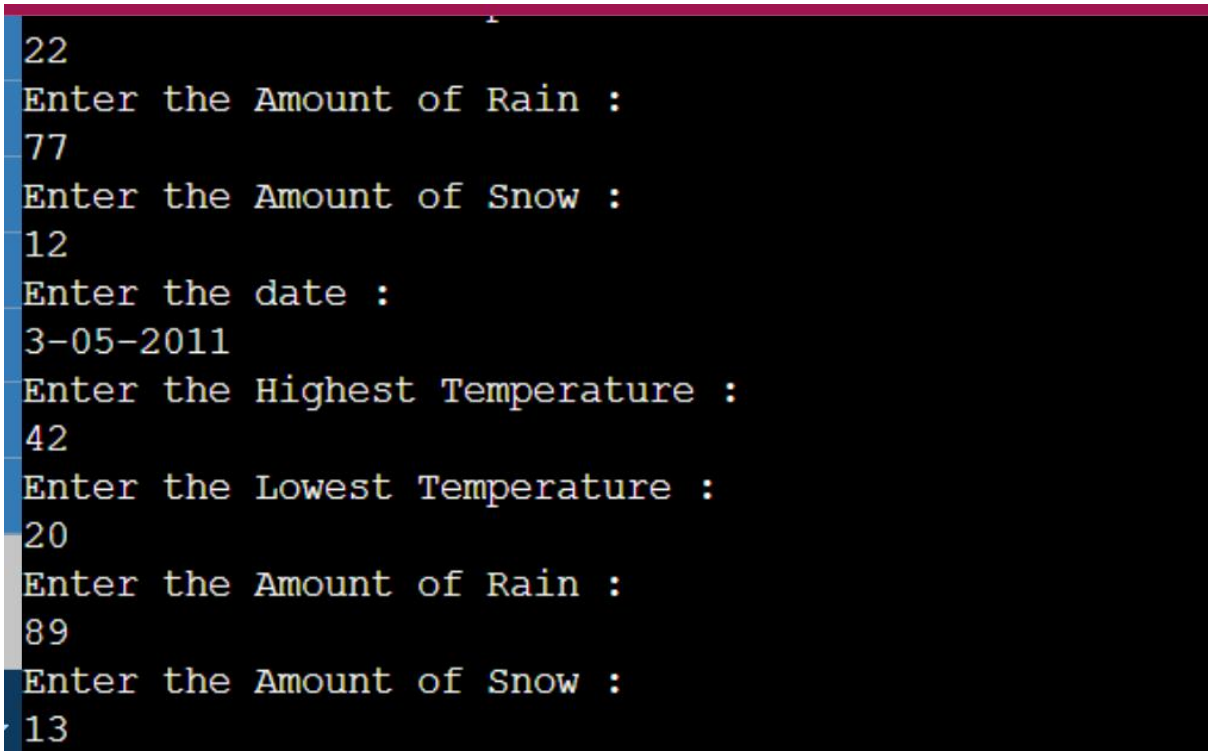
```
    for(int i=0;i<arr.length;i++){
       maxHigh = Math.max(maxHigh, arr[i].highTemp);
       maxLow = Math.min(maxLow, arr[i].lowTemp);
       maxRain = Math.max(maxRain , arr[i].amountRain);
       maxSnow = Math.max(maxSnow, arr[i].amountSnow);
    }
    System.out.println("The largest HighTemperature is " + maxHigh
+ "\nThe smallest LowestTemperature average is " + maxLow +
"\nThe highest Amount rain is " + maxRain + "\nThe highest Amount
snow is " + maxSnow);
  }
     public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    String city;
    System.out.println("Enter the city name : ");
    city = sc.nextLine();
    System.out.println("Enter the details for weather report : ");
    WeatherReport[] arr;
    arr = new WeatherReport[2];
    float highTemp;
    float lowTemp;
    float amountRain;
    float amountSnow;
    String date;
    System.out.println("Enter the date : ");
```

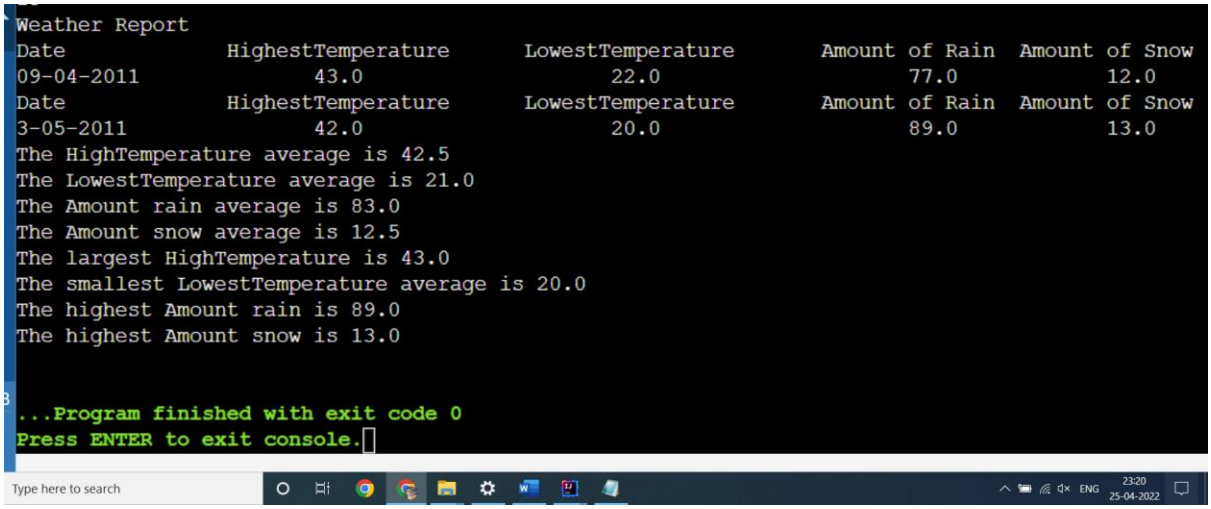
```
        date = sc.nextLine();
        System.out.println("Enter the Highest Temperature : ");
        highTemp = sc.nextFloat();
        System.out.println("Enter the Lowest Temperature : ");
        lowTemp = sc.nextFloat();
        System.out.println("Enter the Amount of Rain : ");
        amountRain = sc.nextFloat();
        System.out.println("Enter the Amount of Snow : ");
        amountSnow = sc.nextFloat();
        arr[0] = new WeatherReport(highTemp , lowTemp , amountRain
, amountSnow , date );
        for(int i=1;i<2;i++){
            arr[i] = new WeatherReport();
        }
        System.out.println("Weather Report");
        for(int i=0;i<2;i++){
            arr[i].printData();
        }
        findAvg(arr);
        getMax(arr);
    }

}
```

OUTPUT: -

Part B: -







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