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;
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```

```
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" + highTemp +
"\t\t" + lowTemp + "\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();
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```
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: -

```
inpı
Enter the details for weather report :
Enter the date:
04-02-2010
Enter the city name:
Alibag
Enter the Highest Temperature :
Enter the Lowest Temperature :
Enter the Amount of Rain :
Enter the Amount of Snow:
12
Enter the date:
09-05-2011
Enter the city name:
Udaypur
Enter the Highest Temperature :
47
Enter the Lowest Temperature :
Enter the Amount of Rain :
Enter the Amount of Snow:
```

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```
Enter the Amount of Snow:
Enter the date :
15-04-2013
Enter the city name:
Udaypur
Enter the Highest Temperature :
44
Enter the Lowest Temperature :
Enter the Amount of Rain:
9
Enter the Amount of Snow:
55
Weather Report
                            HighestTemperature
Date
              CityName
                                                LowestTemperature
                                                                     Amount of Rain Amount of Snow
                                                                     Amount of Rain Amount of Snow
55.0 10.0
Amount of Rain Amount of Snow
9.0 55.0
04-02-2010
              Alibag
Date
09-05-2011
                            HighestTemperature
              CityName
                                                LowestTemperature
              Udaypur
CityName
                                 47.0
                                                          11.0
                            HighestTemperature
                                                 LowestTemperature
15-04-2013
              Udaypur
                                         44.0
...Program finished with exit code 0
Press ENTER to exit console.
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                                                                                      ^ 1 € 4× ENG 23:09 □
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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;
  }
```

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```
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" + amountRain + "\t\t" + amountSnow);
  }
public class Main
  static void findAvg(WeatherReport[] arr){
    int n = arr.length;
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```

}

{

```
float highTempAvg = 0;
    float lowTempAvg = 0;
    float rainAvg = 0;
    float snowAvg = 0;
    for(int i=0;i<arr.length;i++){</pre>
      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;
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```
for(int i=0;i<arr.length;i++){</pre>
      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: ");
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```
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: -

```
Enter the city name:
Alibag
Enter the details for weather report:
Enter the date:
09-04-2011
Enter the Highest Temperature:
43
Enter the Lowest Temperature:
22
Enter the Amount of Rain:
77
Enter the Amount of Snow:
```

```
Enter the Amount of Rain:
77
Enter the Amount of Snow:
12
Enter the date:
3-05-2011
Enter the Highest Temperature:
42
Enter the Lowest Temperature:
20
Enter the Amount of Rain:
89
Enter the Amount of Snow:
13
```

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```
Weather Report
Date
                  HighestTemperature
                                           LowestTemperature
                                                                     Amount of Rain Amount of Snow
09-04-2011
                        43.0
                                                  22.0
                                                                            77.0
                                                                                             12.0
                  HighestTemperature
                                           LowestTemperature
                                                                     Amount of Rain Amount of Snow
Date
3-05-2011
                         42.0
                                                   20.0
                                                                            89.0
                                                                                             13.0
The HighTemperature average is 42.5
The LowestTemperature average is 21.0
The Amount rain average is 83.0
The Amount snow average is 12.5
The largest HighTemperature is 43.0
The smallest LowestTemperature average is 20.0
The highest Amount rain is 89.0
The highest Amount snow is 13.0
...Program finished with exit code 0
Press ENTER to exit console.
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                                                                                   Type here to search
```