**Fall 2020 – Application Programming in Java**

**Lab Assignment # 4**

**Topics covered: Inheritance**

**Last Date of Submission: 01/11/2020**

1. Department of Meteorology (DoM) has decided to develop application (DoM\_Application) to record year wise climatic information of cities in country.

Functional requirements of DoM\_Application are as follows:

Write Menu driven Java program to implement DoM\_Application using following class diagram. Menu must have following options.

1. Maintain city wise hourly (00:00 to 23:00 ) temperature information.
2. Maintain city wise yearly (from January to December) rainfall information.
3. Display yearly climate data for city.

+getCityID():int

+setCityID(int):void

+getCityName():string

+setCityName(string):void

-cityID:int

-cityName:int

City

+getClimateData():double[]

+setClimateData(double[12]):void

-cityClimateData[24]:double

CityTemperature

+getClimateData():double[]

+setClimateData(double[12]):void

-cityClimateData[12]:double

CityRainFall

Note : In Class Diagram , + for public, - for private, # for protected

Special Instructions-

1. Program should be well commented.
2. Program should be easy to use.
3. Data Validation should be done.
4. Add necessary **constructors**, attributes and member functions if required.
5. You have to create 4 classes. City, CityTemperature, CityRainFall and DoMApplication which will have main method.