DBMS Lab 2019-20 Spring Semester

Lab Day 7 (March 3, 2020) – 50 Marks

[Penalty for plagiarism/copying: You will be awarded 0 for all the problems for the lab day you were involved in plagiarism/copying and an additional 5 marks will be deducted out of the total of 40 in Lab. All persons involved will be awarded the same penalty irrespective of who has copied from whom. Decision of the lab teachers is final in this respect.]

Consider the following scenario.

A weather monitoring agency (WMA) has installed different sensors in different parts of a country. Each sensor captures temperature and pressure of the location it is deployed and sends the data to a server where a data warehouse is maintained. The WMA needs to know the temperature and pressure at every sensor location at every second. Their analysis requirements include getting to know the average, maximum, minimum, etc., values of these parameters over a minute, hour, day, week, month, season, year, etc., both for each sensor location as well as for a city, state, region, etc.

Design an efficient data warehouse schema that satisfies the above business scenario. Draw it on the piece of paper provided. Clearly identify the fact table(s), dimension table(s), primary key(s) and foreign key(s). Design an OLAP cube in Oracle AWM containing various combinations of dimensions. **[25+25=50]**

Submit the hardcopy of your star schema, writing your roll no., name, PC No. Through Moodle, submit scanned copy of your star schema and screenshots of your OLAP cube. (Name it as Lab7_<Roll_no> with appropriate extensions).