**Q1) Write a query to create the TRIANGLES table**.

**ANS**: CREATE TABLE TRIANGLES

(

TRIANGLE\_ID INT(10) PRIMARY KEY,

SIDE\_A INT (10),

SIDE\_B INT (10),

SIDE\_C INT (10)

);

INSERT INTO TRIANGLES VALUES

(1, 20,20,23), (2,20,20,20), (3,20,21,22),(4,13,14,30);

SELECT\* FROM TRIANGLES;

**Q2) Insert the following records into the table**

**ANS:** INSERT INTO STATION VALUES (13, "PHOENIX", "AZ", 33, 112);

INSERT INTO STATION VALUES (44, "DENVER", "CO", 40, 105);

INSERT INTO STATION VALUES (66, "CARIBOU", "ME", 47, 68);

**Q3) Execute a query to look at table STATION in undefined order.**

**ANS**: SELECT \* FROM STATION;

**Q4) Execute a query to select Northern stations (Northern latitude > 39.7).**

**ANS:** SELECT \* FROM STATION WHERE LAT\_N > 39.7;

**Q5) Create another table, ‘STATS’, to store normalized temperature and precipitation data**

**ANS:** CREATE TABLE STATS

(

ID INT(10),

MONTH INT(2), CHECK (MONTH BETWEEN 1 AND 12),

TEMP\_F DECIMAL (5,2), CHECK (TEMP\_F BETWEEN -80 AND 150),

RAIN\_I DECIMAL(5,2), CHECK (RAIN\_I BETWEEN 0 AND 100),

PRIMARY KEY (ID, MONTH)

);

**Q6) Populate the table STATS with some statistics for January and July**

**ANS:** INSERT INTO STATS VALUES (13, 1, 57.4, .31);

INSERT INTO STATS VALUES (13, 7, 91.7, 5.15);

INSERT INTO STATS VALUES (44, 1, 27.3, .18);

INSERT INTO STATS VALUES (44, 7, 74.8, 2.11);

INSERT INTO STATS VALUES (66, 1, 6.7, 2.1);

INSERT INTO STATS VALUES (66, 7, 65.8, 4.52);

**Q7) Execute a query to display temperature stats (from the STATS table) for each city (from the STATION table)**

**ANS:** SELECT STATION.CITY, STATS.MONTH, STATS.TEMP\_F FROM STATION JOIN STATS ON STATION.ID= STATS.ID;

**Q8) Execute a query to look at the table STATS, ordered by month and greatest rainfall, with columns rearranged. It should also show the corresponding cities.**

**ANS:** SELECT STATS.ID, STATION.CITY, STATS.MONTH, STATS.RAIN\_I AS Greatest Rainfall

FROM STATS JOIN STATION ON STATS.ID = STATION.ID ORDER BY STATS.RAIN\_I DESC;

**Q9) Execute a query to look at temperatures for July from table STATS, lowest temperatures first, picking up city name and latitude**

**ANS:** SELECT STATION.CITY, STATION.LAT\_N, STATS.MONTH, STATS.TEMP\_F AS TEMPERATURE

FROM STATS JOIN STATION ON STATS.ID= STATION.ID

WHERE STATS.MONTH= 7 ORDER BY TEMP\_F DESC;

**Q10) Execute a query to show MAX and MIN temperatures as well as average rainfall for each city.**

**ANS:** SELECT STATION. CITY, MAX(STATS.TEMP\_F) AS MAX\_TEMPERATURE, MIN(STATS.TEMP\_F)

AS MIN\_TEMPERATURE, AVG(STATS.RAIN\_I) AS AVERAGE\_RAINFALL

FROM STATS JOIN STATION ON STATS.ID= STATION.ID GROUP BY STATION.CITY;

**Q11) Execute a query to display each city’s monthly temperature in Celsius and rainfall in Centimeter.**

**ANS:** SELECT STATION.CITY, STATS.MONTH,((STATS.TEMP\_F - 32) \* 5/9) AS Temperature Celsius,

(STATS.RAIN\_I \* 2.54) AS Rainfall Centimetre FROM STATS JOIN STATION ON STATS.ID= STATION.ID

**Q12) Update all rows of table STATS to compensate for faulty rain gauges known to read 0.01 inches low.**

**ANS:** UPDATE STATS SET RAIN\_I= (RAIN\_I + 0.01) WHERE ID = 13;

UPDATE STATS SET RAIN\_I= (RAIN\_I + 0.01) WHERE ID = 44;

UPDATE STATS SET RAIN\_I= (RAIN\_I + 0.01) WHERE ID = 66;

**Q13) Update Denver's July temperature reading as 74.9.**

**ANS:** UPDATE STATS SET TEMP\_F = 74.9 WHERE ID = 44 AND MONTH = 7;