Homework_4 lab solutions:

Part A:

1. GRANT SELECT ON <Table_name> TO <Account_B>;

2. GRANT SELECT ON <Table_name> TO PUBLIC;

3. CREATE VIEW <View_name> AS SELECT id, title, score, votes FROM <Table_name>;
   GRANT SELECT, DELETE, UPDATE ON <View_name> TO <Account_B>;

4. GRANT SELECT, INSERT ON <Table_name> TO <Account_B> WITH GRANT OPTION;
   GRANT SELECT, INSERT ON <Account_A.Table_name> TO <Account_C>;
   REVOKE SELECT, INSERT ON <Table_name> FROM <Account_B>;

5. GRANT SELECT, INSERT ON <Table_name> TO <Account_B> WITH GRANT OPTION;
   GRANT SELECT, INSERT ON <Account_A.Table_name> TO <Account_C> WITH GRANT OPTION;
   REVOKE SELECT, INSERT ON <Table_name> FROM <Account_B>;

Account_B will not be able to insert because of the cascaded effect of revoke statement.

6. Account_B does not retain insert privileges.

7. Only Account_A has delete permissions.

8. Account_C still has select privileges.

9. Account_B cannot retrieve the view.

PART B:

4. INSERT INTO mycity
   SELECT id,area,perimeter,CITY_DESC(city_name,cntry_name,status,pop_rank,pop_classes),location FROM city COMMIT;

5. SELECT c.description.city_name FROM mycity c WHERE c.description.pop_rank <
3;

**OUTPUT : Minneapolis, Milwaukee, Chicago**

6. SELECT SDO_GEOM.SDO_DISTANCE(C1.location, C2.location, 0.5) FROM city C1, city C2 WHERE C1.CITY_NAME = 'Chicago' AND C2.CITY_NAME = 'Minneapolis';

**OUTPUT : 6.45790038**

7. SELECT C1.CITY_NAME FROM city C1, city C2 WHERE C2.CITY_NAME = 'Winnipeg' AND SDO_GEOM.SDO_DISTANCE(C1.location, C2.location, 0.5) >= ALL(SELECT SDO_GEOM.SDO_DISTANCE(C3.location, C4.location, 0.5) FROM city C3, city C4 WHERE C3.CITY_NAME = 'Winnipeg');

**OUTPUT : Chicago**

PART C:

5. Yes, polymorphism is supported. `printAccountInfo()` is overloaded in `checkingaccount` and `savingsaccount` classes.

PART D:

1. 3 clusters.
2. No. Because k-means doesn’t perform well when clusters have varying densities and sizes.

1. 2 clusters and 3 outliers.
2. K-means does partition the two clusters into distinct clusters. However, the outliers are also assigned to one of the clusters. This is a drawback of k-means.

2. Performance of k-means on dataset 3 is better than on dataset 4. Performance of k-means is better on globular clusters(both clusters in dataset 3 are globular) than on non globular clusters(In dataset 4, one cluster is globular while the other is in the shape of a square).