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CSc 336
Project 2

TASK 1
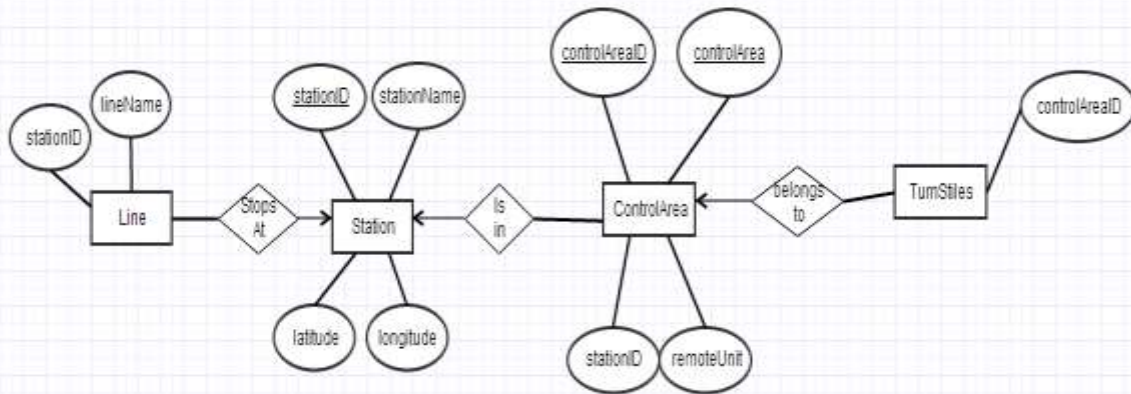
TASK 2

CREATE TABLE Line {
        stationID   **INT**,
        lineName   **CHAR**(30)
};

CREATE TABLE Station {
        stationID   **INT PRIMARY KEY,**
        stationName   **CHAR**(30),
        latitude   **DECIMAL**(5.7),
        longitude   **DECIMAL**(6,4)
};

CREATE TABLE ControlArea {
        controlAreaID **INT PRIMARY KEY,**
`   controlArea   **CHAR(5) PRIMARY KEY,**
        stationID   INT,
        remoteUnit   **CHAR**(4)
};

CREATE TABLE TurnStiles {
        controlAreaID   **INT**
};

TASK 3

A)
```sql
SELECT controlArea
FROM   ControlArea CA
WHERE CA.controlareaID IN
        ( SELECT controlAreaID
          FROM TurnStiles
          GROUP BY controlAreaID
          HAVING COUNT(controlAreaID) > 15
        );
```

B)
```sql
SELECT  DISTINCT remoteunit
FROM   remoteunit
WHERE           count(remoteunit) > 1
```

C)
```sql
SELECT  DISTINCT stationname
FROM   Station S, ControlArea CA
WHERE           S.stationID = CA.stationID AND CA.controlareaID IN
        ( SELECT controlAreaID
          FROM TurnStiles
          GROUP BY controlAreaID
          HAVING COUNT(controlAreaID) >15
        );
```

D)
```sql
SELECT  DISTINCT stationName
FROM   Station
WHERE stationID IN
        (SELECT stationID
         FROM Line
         WHERE Line LIKE '%A%'
         )
ORDER BY latitude DESC;
```

E)
```sql
SELECT  S.stationID, S.stationName, COUNT(controlArea) AS ControlAreas
FROM   Station S, ControlArea CA,
        (SELECT  stationID
         FROM   Station
         WHERE latitude > 40.750 AND latitude < 40.760
         AND longitude > -74.000 AND longitude < -73.95
         ) R1
WHERE R1.stationID = CA.stationID AND R1.stationID = S.stationID
GROUP BY CA.stationID;
```

F)
SELECT S.stationID, S.stationName, **COUNT**(controlArea) **AS** ControlAreas,**SUM**(TurnStiles) **AS** TurnStiles
FROM Station S, ControlArea CA,
     (**SELECT** controlAreaID, **COUNT**(controlAreaID) **AS** TurnStiles
      FROM TurnStiles
      GROUP BY controlAreaID
) R1
WHERE CA.controlAreaID = R1.controlAreaID **AND** CA.stationID = S.stationID **AND** latitude > 40.750 **AND** latitude < 40.760 **AND** longitude > -74.000 **AND** longitude < -73.95
GROUP BY CA.stationID