# Tutorial 8

# SQL

Q1. Consider following relation with instances

**Part**

| P# | PNAME | COLOR | WEIGHT | CITY |
|---|---|---|---|---|
| P1 | Nut | Red | 12 | London |
| P2 | Bolt | Green | 17 | Paris |
| P3 | Screw | Blue | 17 | Rome |
| P4 | Screw | Red | 14 | London |
| P5 | Cam | Blue | 12 | Paris |
| P6 | Cog | Red | 19 | London |

**Suppliers**

| S# | SNAME | STATUS | CITY |
|---|---|---|---|
| S1 | Smith | 20 | London |
| S2 | Jones | 10 | Paris |
| S3 | Blake | 30 | Paris |
| S4 | Clark | 20 | London |
| S5 | Adams | 30 | Athens |

**Shipments**

| S# | P# | QTY |
|---|---|---|
| S1 | P1 | 300 |
| S1 | P2 | 200 |
| S1 | P3 | 400 |
| S1 | P4 | 200 |
| S1 | P5 | 100 |
| S1 | P6 | 100 |
| S2 | P1 | 300 |
| S2 | P2 | 400 |
| S3 | P2 | 200 |
| S4 | P2 | 200 |
| S4 | P4 | 300 |
| S4 | P5 | 400 |
| S4 | P6 | 200 |

Answer the following queries using nested queries/join:

1. Get supplier names for suppliers who supply part P2
2. Get supplier names for suppliers who supply at least one red part.

3. Get supplier names for suppliers who supply at least one red part using joins and nested query
4. **Get supplier names for suppliers who supply all parts**
5. Get supplier names for suppliers who do not supply part P2.
6. Get part numbers for parts supplied by more than one supplier.
7. **Get part numbers for parts that either weight more than 16 pounds or are supplied by supplier S2, or both**
8. Get supplier numbers for suppliers with status less than the current maximum status in the S table.
9. Get part names for parts whose weight is greater that that of every blue part

**Question 2 .** For the following Movies database

**Movies (Title, Year, filmType, DirectedBy) Stars(Title, Year, StarName, Salary)**
**Oscars(Title, Year, OscarAwardType, AwardedTo)**
**BoxOffice(Title, Year,City,GrossSales) Ratings(Title,**
**Year, Reviewer, Score)**

The Movies relation contains the list of all movies. The value of the filmType attribute maybe 'horror', 'action',' thriller' etc. (Title,Year) form a key in the Movies relation. The Salary attribute in the Stars relation is the amount paid to StarName for working in the movie: (Title,Year).The Oscars relation has a tuple for Oscar awarded to a movie eg the Best Actor, Best Actress, and Best Director awards. The BoxOffice relation records for each movie its gross sales at the box office for each city. Also, each movie is rated at a scale of 1-10 by many reviewers. The rating information is kept in the relation Ratings.

Write SQL statements to retrieve the following

- Movie that has the maximum Total Salary Cost (total salary paid to stars).
- Total gross sales of allmovies that won some Oscar award in the 1960s.
- For each director, the total number of his/her movies that have won an Oscar.
- For each star, the total number of movies for which he/she has won a Best Actor/Actress Oscar AND that have won at least two Oscars.
- List of all directors who received the "Best Director" award, even though the movie for which they received the award had anaverage rating of less than 5.
- Write an UPDATE statement that changes the filmType of a movie that has won an Oscar to 'OscarWinner'.

**Question 3.** The relational database schema is as follows:

**Guitars(gid, brand,price)**
**Players (pid, name,age)**
**Lastplayed(gid,pid,date)**

I) Create the above relations with primary key and referential integrity rules

2) Write SQL queries for the following

- Find the players who have played all guitars.
- Find gids of guitars played by at least 2 different players
- Find the total price of guitars played by each player.
- For each guitar played by more than 3 players, find its brand.
- Find the guitar not played by any player.