Getting Started with SQL Cheatsheet

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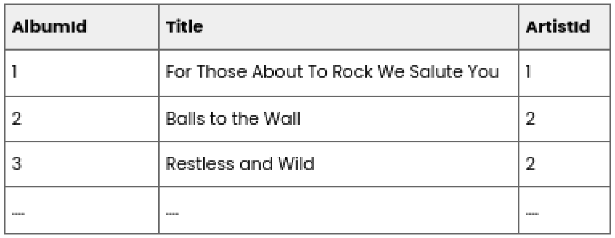
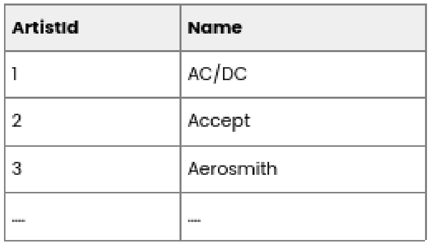
SQL (Structure Query Language) is used to create and manage databases. It is a standard language for relational database systems such as MySQL, Postgres, SQLite, and Oracle. In data science, SQL is used for data retrieval, analytics & transformation.

Sample Data



AlbumId	Title	ArtistId
1	For Those About To Rock We Salute You	1
2	Balls to the Wall	2
3	Restless and Wild	2
...	...	...

Table: albums



ArtistId	Name
1	AC/DC
2	Accept
3	Aerosmith
...	...

Table: artists

Simple Query

Fetch all columns from albums table:

```
SELECT * FROM albums;
```

Fetch single column from artists table:

```
SELECT Name FROM artists;
```

Fetch the 5 rows of Title column from albums table sorted by Artistid:

- **Use ASC for ascending**
- **Use DEC for descending**

```
SELECT Title
FROM albums
ORDER BY Artistid ASC
LIMIT 5;
```

Alias

Change the “Title” column’s name to “Album_Title”:

```
SELECT Title as Album_Title FROM albums;
```

Change the albums and artists tables names to al and ar:.

```
SELECT ar.Name, al.Title
FROM albums as al
JOIN artists as ar
   ON al.ArtistId = ar.ArtistId;
```

Filtering

Display Title with Artistid greater than 12 from albums table:

- **Equal: =**
- **Greater than: >**
- **Lesser than: <**
- **Greater than or equal: >=**
- **Lesser than or equal: <=**

```
SELECT Title FROM albums WHERE Artistid > 12;
```

Display all Name except “Accept” and “AC/DC” from artists table:

- AND
- OR
- NOT

```
SELECT Name
FROM artists
WHERE Name != "Accept"
    AND Name != "AC/DC";
```

Fetch Title where Artistid ranges between 12 and 100 from albums table:

```
SELECT Title
FROM albums
WHERE Artistid BETWEEN 12 AND 100;
```

Fetch Title for selective Artistid from albums table:

```
SELECT Title
FROM albums
WHERE Artistid IN (3,5,10,12);
```

Fetch all columns with no missing Artistid:

```
SELECT *
FROM albums
WHERE Artistid IS NOT NULL;
```

Joins

Join two or more tables using:

- **Inner Join**
- **Left Join**
- **Right Join**
- **Full Join**
- **Cross Join**
- **Natural Join**

Applying LEFT JOIN on albums and artists tables using common columns Artistid:

```
SELECT artists.Name, albums.Title
FROM albums
LEFT JOIN artists
       ON albums.ArtistId = artists.ArtistId;
```

Modifying Tables

Insert the new row into artists table using column names and values:

```
INSERT INTO artists
(Artistid, Name)
VALUES (500, "Abid")
```

Modify the Name columns where Artistid is 500 from artists table:

```
UPDATE artists
SET Name="ALI"
WHERE Artistid=500
```

Delete the row from artists table where Artistid is 500:

```
DELETE FROM artists
WHERE Artistid=500
```

Add a new column Bio to artists table:

```
ALTER TABLE artists
ADD Bio VARCHAR
```

Drop the Bio column from artists table:

ALTER TABLE artists
DROP COLUMN Bio

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