

Loading package and connecting to database

In [4]: %load\_ext sql

```
%sql mysql+pymysql://root:@localhost/chocolates #connecting to db names chocolates running on local mysql server
```

0 rows affected.

Out[4]: []

In [ ]: %%sql

```
SHOW TABLES;
```

In [ ]: %%sql

```
#JOIN ON
SELECT
    S.SALEDATE,
    G.GEO
FROM
    SALES AS S
    JOIN GEO AS G ON S.GEOID = G.GEOID
LIMIT
    10;
```

In [6]: %%sql

```
SELECT
    S.SALEDATE,
    G.GEO,
    PR.PRODUCT

FROM
    SALES AS S
    INNER JOIN GEO AS G ON S.GEOID = G.GEOID
    INNER JOIN PRODUCTS AS PR ON S.PID = PR.PID
WHERE PR.SIZE = "LARGE"
LIMIT 10;
```

\* mysql+pymysql://root:\*\*\*@localhost/chocolates  
10 rows affected.

Out[6]:

SALEDATE	GEO	PRODUCT
2021-01-01 00:00:00	New Zealand	Raspberry Choco
2021-01-01 00:00:00	USA	99% Dark & Pure
2021-01-01 00:00:00	UK	Raspberry Choco
2021-01-01 00:00:00	New Zealand	Milk Bars
2021-01-01 00:00:00	USA	Milk Bars
2021-01-01 00:00:00	Canada	Mint Chip Choco
2021-01-01 00:00:00	USA	Orange Choco
2021-01-01 00:00:00	India	Eclairs
2021-01-01 00:00:00	India	After Nines
2021-01-01 00:00:00	UK	Mint Chip Choco

In [9]: %%sql

```
#MULTIPLE TABLE JOIN
SELECT
    S.SALEDATE,
    G.GEO,
    PR.PRODUCT,
    P.SALESPERSON

FROM
    SALES AS S
    INNER JOIN GEO AS G ON S.GEOID = G.GEOID
    INNER JOIN PRODUCTS AS PR ON S.PID = PR.PID
    INNER JOIN PEOPLE AS P ON S.SPID = P.SPID
WHERE PR.SIZE = "LARGE"
LIMIT 10;
```

\* mysql+pymysql://root:\*\*\*@localhost/chocolates  
10 rows affected.

Out[9]:

SALEDATE	GEO	PRODUCT	SALESPERSON
2021-01-01 00:00:00	New Zealand	Raspberry Choco	Barr Faughny
2021-01-01 00:00:00	USA	99% Dark & Pure	Karlen McCaffrey
2021-01-01 00:00:00	UK	Raspberry Choco	Oby Sorrel
2021-01-01 00:00:00	New Zealand	Milk Bars	Curtice Advani
2021-01-01 00:00:00	USA	Milk Bars	Madelene Upcott
2021-01-01 00:00:00	Canada	Mint Chip Choco	Jehu Rudeforth
2021-01-01 00:00:00	USA	Orange Choco	Jehu Rudeforth
2021-01-01 00:00:00	India	Eclairs	Brien Boise
2021-01-01 00:00:00	India	After Nines	Curtice Advani
2021-01-01 00:00:00	UK	Mint Chip Choco	Camilla Castle

In [17]: %%sql

```
SELECT
    COUNT(*),
    S.SALEDATE,
    G.GEO
FROM
    SALES AS S
    INNER JOIN GEO AS G ON S.GEOID = G.GEOID
;
```

\* mysql+pymysql://root:\*\*\*@localhost/chocolates  
1 rows affected.

Out[17]:

COUNT(*)	SALEDATE	GEO
7617	2021-01-01 00:00:00	New Zealand

In [23]: %%sql

```
SELECT * FROM EMPLOYEES;
```

\* mysql+pymysql://root:\*\*\*@localhost/chocolates  
10 rows affected.

Out[23]:

emp_id	emp_name	department_id
1	Alice	101
2	Bob	102
3	Carol	103
4	David	101
5	Eve	None
6	Frank	104
7	Grace	102
8	Hank	None
9	Ivy	105
10	Jack	101

In [25]: %%sql

```
SELECT * FROM DEPARTMENTS;
```

\* mysql+pymysql://root:\*\*\*@localhost/chocolates  
6 rows affected.

Out[25]:

dept_id	dept_name
101	HR
102	Finance
103	Engineering
104	Marketing
105	Sales
106	IT

In [30]: %%sql

```
SELECT
    E.EMP_NAME,
    D.DEPT_NAME
FROM
    EMPLOYEES AS E
    JOIN DEPARTMENTS AS D ON E.DEPARTMENT_ID = D.DEPT_ID;
```

\* mysql+pymysql://root:\*\*\*@localhost/chocolates  
8 rows affected.

Out[30]:

EMP_NAME	DEPT_NAME
Alice	HR
Bob	Finance
Carol	Engineering
David	HR
Frank	Marketing
Grace	Finance
Ivy	Sales
Jack	HR

In [32]: %%sql

```
#LEFT JOIN
SELECT
    E.EMP_NAME,
    D.DEPT_NAME
FROM
    EMPLOYEES AS E
    LEFT JOIN DEPARTMENTS AS D ON E.DEPARTMENT_ID = D.DEPT_ID;
```

\* mysql+pymysql://root:\*\*\*@localhost/chocolates  
10 rows affected.

Out[32]:

EMP_NAME	DEPT_NAME
Alice	HR
Bob	Finance
Carol	Engineering
David	HR
Eve	None
Frank	Marketing
Grace	Finance
Hank	None
Ivy	Sales
Jack	HR

In [36]: %%sql

```
#RIGHT JOIN
SELECT
    E.EMP_NAME,
    D.DEPT_NAME
FROM
    EMPLOYEES AS E
    RIGHT JOIN DEPARTMENTS AS D ON E.DEPARTMENT_ID = D.DEPT_ID;
```

\* mysql+pymysql://root:\*\*\*@localhost/chocolates  
9 rows affected.

Out[36]:

EMP_NAME	DEPT_NAME
Alice	HR
Bob	Finance
Carol	Engineering
David	HR
Frank	Marketing
Grace	Finance
Ivy	Sales
Jack	HR
None	IT

In [34]: %%sql

```
#INNER JOIN
SELECT
    E.EMP_NAME,
    D.DEPT_NAME
FROM
    EMPLOYEES AS E
    INNER JOIN DEPARTMENTS AS D ON E.DEPARTMENT_ID = D.DEPT_ID;
```

\* mysql+pymysql://root:\*\*\*@localhost/chocolates  
8 rows affected.

Out[34]:

EMP_NAME	DEPT_NAME
Alice	HR
Bob	Finance
Carol	Engineering
David	HR
Frank	Marketing
Grace	Finance
Ivy	Sales
Jack	HR

In [35]: %%sql

```
#OUTER JOIN EMULATED USING UNION AS THE PARTICULAR DB VERSION DOES NOT SUPPORT OUTER JOIN
SELECT
    E.EMP_NAME,
    D.DEPT_NAME
FROM
    EMPLOYEES AS E
    LEFT JOIN DEPARTMENTS AS D ON E.DEPARTMENT_ID = D.DEPT_ID
UNION
SELECT
    E.EMP_NAME,
    D.DEPT_NAME
FROM
    EMPLOYEES AS E
    RIGHT JOIN DEPARTMENTS AS D ON E.DEPARTMENT_ID = D.DEPT_ID;
```

\* mysql+pymysql://root:\*\*\*@localhost/chocolates  
11 rows affected.

Out[35]:

EMP_NAME	DEPT_NAME
Alice	HR
Bob	Finance
Carol	Engineering
David	HR
Eve	None
Frank	Marketing
Grace	Finance
Hank	None
Ivy	Sales
Jack	HR
None	IT

In [ ]: