aggregate_functions

February 23, 2020

```
In [1]: %load_ext sql
```

```
In [2]: import json
        with open('/home/shadowleaf/.local/config/mysql_config.json') as f:
            data = json.load(f)
```

```
In [4]: import os
        DATABASE_URL = 'mysql+pymysql://{}:{}@localhost:3306/students'.format(data['user'], dat
        os.environ['DATABASE_URL'] = DATABASE_URL
```

```
In [5]: %sql SHOW DATABASES
```

5 rows affected.

```
Out[5]: [('information_schema',),
         ('mysql',),
         ('performance_schema',),
         ('students',),
         ('sys',)]
```

```
In [6]: %sql USE students;
```

 * mysql+pymysql://shadowleaf:***@localhost:3306/students
0 rows affected.

```
Out[6]: []
```

1 Create Table employee and insert data into it

```
In [ ]: -- if the table already exists then drop it

        DROP TABLE IF EXISTS `employee`;

        -- create a table with the attributes

        CREATE TABLE `employee` (
```

```
  `emp_id` int(11) DEFAULT NULL,
  `mgr_id` char(20) DEFAULT NULL,
  `dept_id` char(50) DEFAULT NULL,
  `emp_name`,
  `emp_type`,
  `last_paid_on`
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

-- insert data into the table

LOCK TABLES `student_list` WRITE;
INSERT INTO `student_list` VALUES
    (101,'satyajit ghana','bangalore'),
    (102,'shikhar singh','bangalore'),
    (103,'shubham agarwal','haryana'),
    (104,'pritam das','kolkata');
UNLOCK TABLES;
```

2 Create Table salary and insert data into it

In [18]: %%sql

```
  -- if the table already exists then drop it

  DROP TABLE IF EXISTS `salary`;

  -- create a table with the attributes

  CREATE TABLE `salary` (
    `sal_emp_id` int DEFAULT NULL,
    `salary_type` char(20) DEFAULT NULL,
    `base_salary` int DEFAULT 0,
    `gross_salary` int DEFAULT 0,
    `allowance` int DEFAULT 0
  ) ENGINE=InnoDB DEFAULT CHARSET=latin1;

  -- insert data into the table

  LOCK TABLES `salary` WRITE;
  INSERT INTO `salary` VALUES
      (101, 'junior', 1000, 20000, 5000),
      (102, 'senior', 2000, 40000,6000),
      (103, 'junior', 1500, 25000,4500),
      (104, 'senior', 2500, 35000,6000),
      (105, 'junior', 2000, 40000,6000)
      ;
```

```
        UNLOCK TABLES;

 * mysql+pymysql://shadowleaf:***@localhost:3306/students
0 rows affected.
0 rows affected.
0 rows affected.
5 rows affected.
0 rows affected.
```

Out[18]: []

In [19]: %%sql

```
        SELECT * FROM salary;
```

```
 * mysql+pymysql://shadowleaf:***@localhost:3306/students
5 rows affected.
```

Out[19]: [(101, 'junior', 1000, 20000, 5000),
         (102, 'senior', 2000, 40000, 6000),
         (103, 'junior', 1500, 25000, 4500),
         (104, 'senior', 2500, 35000, 6000),
         (105, 'junior', 2000, 40000, 6000)]

3   Aggregate Functions

In [20]: %%sql
```
        SELECT
            COUNT(*),
            AVG(base_salary),
            SUM(allowance),
            MIN(gross_salary),
            MAX(gross_salary)  FROM `salary`
```

```
 * mysql+pymysql://shadowleaf:***@localhost:3306/students
1 rows affected.
```

Out[20]: [(5, Decimal('1800.0000'), Decimal('27500'), 20000, 40000)]

In [ ]: