Lab 6 CS254

Name: Abhiraj Mengade
Roll no: 201cs102

Q1. Using Employee Database perform the following queries

Employee(empid,empname,empemail,phone_no,salary,city)

```
CREATE TABLE employees (
empid INT PRIMARY KEY,
empname VARCHAR(255) NOT NULL,
empemail VARCHAR(255) NOT NULL,
phone_no VARCHAR(25),
salary INT,
city VARCHAR(255) NOT NULL
);

INSERT INTO employees VALUES
(1, 'Joline Hoffmann', 'jhoffmann0@gmail.edu', '+7-105-242-1707', 96900,
'Bangalore'),
(2, 'Harbert Hobbert', 'hhobbert1@flickr.com', '+52-783-503-0336', 53100,
'Pune'),
(3, 'Kalli Throssell', 'kthrossell2@yahoo.com', '+62-539-169-1432', 30000,
'Hyderabad'),
(4, 'Brunhilde Barry', 'bbarry3@gmail.com', '+351-322-243-9101', 96900,
'Bangalore'),
(5, 'Jerald Hanse', 'jhanse4@usda.gov', '+380-118-812-6734', 46700,
'Hyderabad'),
(6, 'Lanita Monroe', 'lmonroe5@gmail.gov', '+7-407-784-8060', 48200,
'Mumbai'),
(7, 'Kirby Demare', 'kdemare6@vistaprint.com', '+62-255-985-0019', 55700,
'Bangalore'),
```

```
(8, 'Wolfie O''Kerin', 'wokerin7@mysql.com', '+62-543-328-7641', 57600,
'Hyderabad'),
(9, 'Willdon Forrester', 'wforrester8@indiatimes.com', '+55-103-983-4422',
45400, 'Bangalore'),
(10, 'Carina Taplow', 'ctaplow9@yahoo.com', '+92-326-726-1153', 33800,
'Delhi');
```

```
CREATE TABLE employees (
empid INT PRIMARY KEY,
empname VARCHAR(255) NOT NULL,
empemail VARCHAR(255) NOT NULL,
phone_no VARCHAR(25),
salary INT,
city VARCHAR(255) NOT NULL
);

INSERT INTO employees VALUES
(1, 'Joline Hoffmann', 'jhoffmann0@gmail.edu', '+7-105-242-1707', 96900, 'Bangalore'),
(2, 'Harbert Hobbert', 'hhobbert1@flickr.com', '+52-783-503-0336', 53100, 'Pune'),
(3, 'Kalli Throssell', 'kthrossell2@yahoo.com', '+62-539-169-1432', 30000, 'Hyderabad'),
(4, 'Brunhilde Barry', 'bbarry3@gmail.com', '+351-322-243-9101', 96900, 'Bangalore'),
(5, 'Jerald Hanse', 'jhanse4@usda.gov', '+380-118-812-6734', 46700, 'Hyderabad'),
(6, 'Lanita Monroe', 'lmonroe5@gmail.gov', '+7-407-784-8060', 48200, 'Mumbai'),
(7, 'Kirby Demare', 'kdemare6@vistaprint.com', '+62-255-985-0019', 55700, 'Bangalore'),
(8, 'Wolfie O''Kerin', 'wokerin7@mysql.com', '+62-543-328-7641', 57600, 'Hyderabad'),
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(10, 'Carina Taplow', 'ctaplow9@yahoo.com', '+92-326-726-1153', 33800, 'Delhi');


SELECT * FROM employees;
```

STDIN

Input for the program (Optional)

Output:

empid	empname	empemail	phone_no	salary
1	Joline Hoffmann	jhoffmann0@gmail.edu	+7-105-2	
2	Harbert Hobbert	hhobbert1@flickr.com	+52-783-	
3	Kalli Throssell	kthrossell2@yahoo.com	+62-539-	
4	Brunhilde Barry	bbarry3@gmail.com	+351-322	
5	Jerald Hanse	jhanse4@usda.gov	+380-118	
6	Lanita Monroe	lmonroe5@gmail.gov	+7-407-7	
7	Kirby Demare	kdemare6@vistaprint.com	+62-255-	
8	Wolfie O'Kerin	wokerin7@mysql.com	+62-543-	
9	Willdon Forrester	wforrester8@indiatimes.c		
10	Carina Taplow	ctaplow9@yahoo.com	+92-326-	

a.) a. Write a query to retrieve the number of employees in each city

```
SELECT city, COUNT(*) AS count
FROM employees
GROUP BY city;
```

```
SELECT city, COUNT(*) AS count
FROM employees
GROUP BY city;
```

STDIN

Input for the program (Optional)

Output:

```
city    count
Bangalore       4
Pune    1
Hyderabad       3
Mumbai  1
Delhi   1
```

b.) Write a query to retrieve the number of employees having different salaries in each cities

```
SELECT city, COUNT(DISTINCT salary) AS count
FROM employees
GROUP BY city;
```

```
SELECT city, COUNT(DISTINCT salary) AS count
FROM employees
GROUP BY city;
```

STDIN

Input for the program (Optional

Output:

```
city    count
Bangalore       3
Delhi   1
Hyderabad       3
Mumbai  1
Pune    1
```

c.) Write a query to retrieve the number of employees in each city, sorted in descending order

```
SELECT city, COUNT(*) AS count
FROM employees
```

```
GROUP BY city
ORDER BY count DESC;
```

```
SELECT city, COUNT(*) AS count
FROM employees
GROUP BY city
ORDER BY count DESC;
```

STDIN

Input for the program (Optional)

Output:

```
city    count
Bangalore       4
Hyderabad       3
Pune    1
Mumbai  1
Delhi   1
```

d.) Write a query to retrieve the salary of all the employees, sorted in ascending order

```
SELECT empname, salary
FROM employees
ORDER BY salary;
```

```
SELECT empname, salary
FROM employees
ORDER BY salary;
```

STDIN

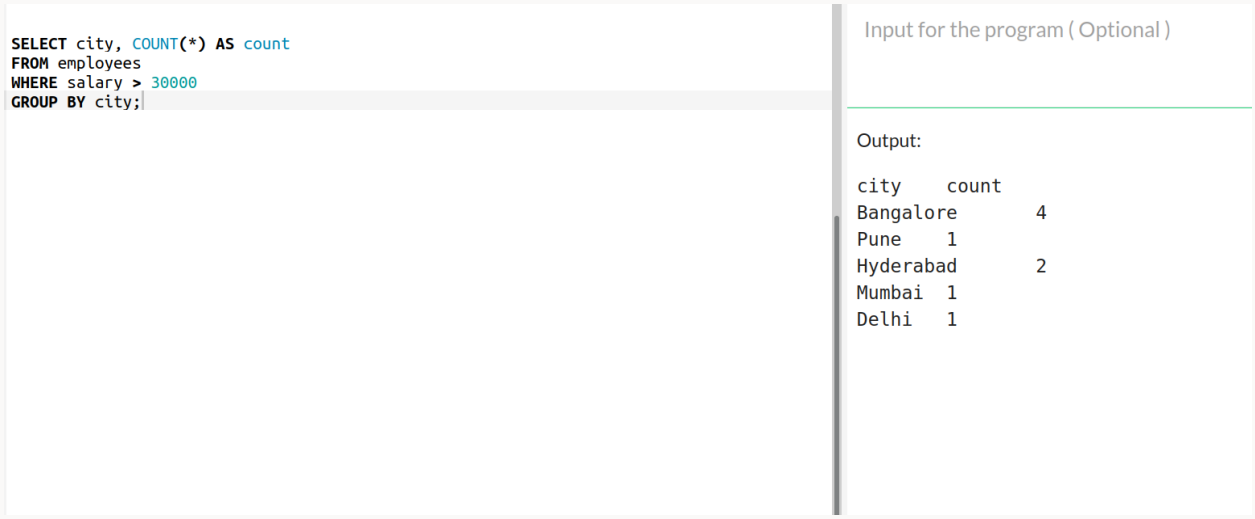
Input for the program (Optional)

Output:

```
empname salary
Kalli Throssell 30000
Carina Taplow   33800
Willdon Forrester       45400
Jerald Hanse    46700
Lanita Monroe   48200
Harbert Hobbert 53100
Kirby Demare    55700
Wolfie O'Kerin  57600
Joline Hoffmann 96900
Brunhilde Barry 96900
```

e.) Write a query to retrieve the number of employees in each city , having salary > 30000

```
SELECT city, COUNT(*) AS count
FROM employees
WHERE salary > 30000
GROUP BY city;
```



f.) write a query to retrieve the details of all the employees who have gmail or yahoo account.

```
SELECT * FROM employees
WHERE
empemail LIKE '%@gmail.%' OR
empemail LIKE '%@yahoo.%'
;
```

```
SELECT * FROM employees
WHERE
empemail LIKE '%@gmail.%' OR
empemail LIKE '%@yahoo.%'
;
```

Input for the program (Optional)

Output:

empid	empname	empemail	phone_no	salary
1	Joline Hoffmann	jhoffmann0@gmail.edu	+7-105-2	
3	Kalli Throssell	kthrossell2@yahoo.com	+62-539-	
4	Brunhilde Barry	bbarry3@gmail.com	+351-322	
6	Lanita Monroe	lmonroe5@gmail.gov	+7-407-7	
10	Carina Taplow	ctaplow9@yahoo.com	+92-326-	

g.) write a query to find the number of employees whose average salary is greater than 15000 and
also print their names in ascending order
.

```
SELECT COUNT(*) AS count FROM employees
WHERE salary > 15000;
```

```
SELECT COUNT(*) AS count FROM employees
WHERE salary > 15000;
```

Input for the program (Optional)

Output:

```
count
10
```

Q2. Consider the Employee table.

```
CREATE TABLE employees (
empID INT PRIMARY KEY,
empNAME VARCHAR(255) NOT NULL,
empDEPT VARCHAR(255) NOT NULL,
empSALARY INT,
empCITY VARCHAR(255) NOT NULL
);

INSERT INTO employees VALUES
(1, 'Dannie Domelow', 'HR', 8500, 'Mumbai'),
(2, 'Marcellina Lacase', 'HR', 7600, 'Hyderabad'),
(3, 'Bette-ann Aldrin', 'Support', 4700, 'Hyderabad'),
(4, 'Cyrille Simek', 'Business Development', 7100, 'Hyderabad'),
(5, 'Daniela Demogeot', 'Support', 7000, 'Bangalore'),
(6, 'Joyann Shmyr', 'R&D', 8700, 'Delhi'),
(7, 'Averyl Castan', 'Product Management', 10000, 'Mumbai'),
(8, 'Marchelle Armstrong', 'Support', 2300, 'Mumbai'),
(9, 'Cayla McWhin', 'R&D', 10000, 'Hyderabad'),
(10, 'Brig Lampert', 'Legal', 1400, 'Delhi');
```

```
CREATE TABLE employees (
empID INT PRIMARY KEY,
empNAME VARCHAR(255) NOT NULL,
empDEPT VARCHAR(255) NOT NULL,
empSALARY INT,
empCITY VARCHAR(255) NOT NULL
);

INSERT INTO employees VALUES
(1, 'Dannie Domelow', 'HR', 8500, 'Mumbai'),
(2, 'Marcellina Lacase', 'HR', 7600, 'Hyderabad'),
(3, 'Bette-ann Aldrin', 'Support', 4700, 'Hyderabad'),
(4, 'Cyrille Simek', 'Business Development', 7100, 'Hyderabad'),
(5, 'Daniela Demogeot', 'Support', 7000, 'Bangalore'),
(6, 'Joyann Shmyr', 'R&D', 8700, 'Delhi'),
(7, 'Averyl Castan', 'Product Management', 10000, 'Mumbai'),
(8, 'Marchelle Armstrong', 'Support', 2300, 'Mumbai'),
(9, 'Cayla McWhin', 'R&D', 10000, 'Hyderabad'),
(10, 'Brig Lampert', 'Legal', 1400, 'Delhi');

SELECT * FROM employees;
```

STDIN

Input for the program (Optional)

Output:

```
empID   empNAME empDEPT empSALARY       empCITY
1       Dannie Domelow  HR      8500    Mumbai
2       Marcellina Lacase       HR      7600    Hyderaba
3       Bette-ann Aldrin        Support 4700    Hyderaba
4       Cyrille Simek   Business Development    7100
5       Daniela Demogeot        Support 7000    Bangalor
6       Joyann Shmyr    R&D     8700    Delhi
7       Averyl Castan   Product Management      10000
8       Marchelle Armstrong     Support 2300    Mumbai
9       Cayla McWhin    R&D     10000   Hyderabad
10      Brig Lampert    Legal   1400    Delhi
```

a.) Add the salaries of employees of each city.

```
SELECT empCITY, SUM(empSALARY) AS total_salary
FROM employees
GROUP BY empCITY;
```

```
(10, 'Brig Lampert', 'Legal', 1400, 'Delhi');


SELECT empCITY, SUM(empSALARY) AS total_salary
FROM employees
GROUP BY empCITY;
```

STDIN

Input for the program (Optional)

Output:

```
empCITY total_salary
Mumbai  20800
Hyderabad       29400
Bangalore       7000
Delhi   10100
```

b.) Show those cities whose total salary of employees is more than or equal to 8000

```
SELECT empCITY, SUM(empSALARY) AS total_salary
FROM employees
```

```
GROUP BY empCITY
HAVING total_salary >= 8000;
```

```
SELECT empCITY, SUM(empSALARY) AS total_salary
FROM employees
GROUP BY empCITY
HAVING total_salary >= 8000;
```

Input for the program (Optional)

Output:

```
empCITY total_salary
Mumbai  20800
Hyderabad       29400
Delhi   10100
```

c.) show each department and the minimum salary in each department

```
SELECT empDEPT, MIN(empSALARY)
FROM employees
GROUP BY empDEPT;
```

```
SELECT empDEPT, MIN(empSALARY)
FROM employees
GROUP BY empDEPT;
```

Output:

```
empDEPT MIN(empSALARY)
HR      7600
Support 2300
Business Development    7100
R&D     8700
Product Management      10000
Legal   1400
```

d.) Show only those departments whose minimum salary of employees is greater than 7500

```
SELECT empDEPT, MIN(empSALARY) as min_salary
FROM employees
GROUP BY empDEPT
HAVING min_salary > 7500;
```

```
SELECT empDEPT, MIN(empSALARY) as min_salary
FROM employees
GROUP BY empDEPT
HAVING min_salary > 7500;
```

Output:

```
empDEPT min_salary
HR      7600
R&D     8700
Product Management      10000
```

e.) List each department and the maximum salary in each department

```
SELECT empDEPT, MAX(empSALARY)
FROM employees
GROUP BY empDEPT;
```

```
SELECT empDEPT, MAX(empSALARY)
FROM employees
GROUP BY empDEPT;
```

Output:

```
empDEPT MAX(empSALARY)
HR      8500
Support 7000
Business Development    7100
R&D     10000
Product Management      10000
Legal   1400
```

f.) Show only those departments whose maximum salary of employees is less or equal to 7000

```sql
SELECT empDEPT, MAX(empSALARY) AS max_salary
FROM employees
GROUP BY empDEPT
HAVING max_salary <= 7000;
```

```sql
SELECT empDEPT, MAX(empSALARY) AS max_salary
FROM employees
GROUP BY empDEPT
HAVING max_salary <= 7000;
```

Output:

```
empDEPT max_salary
Support 7000
Legal   1400
```

g.) Find the average salary of employees in each department.

```sql
SELECT empDEPT, AVG(empSALARY)
FROM employees
GROUP BY empDEPT;
```

```sql
SELECT empDEPT, AVG(empSALARY)
FROM employees
GROUP BY empDEPT;
```

Output:

```
empDEPT AVG(empSALARY)
HR      8050.0000
Support 4666.6667
Business Development    7100.0000
R&D     9350.0000
Product Management      10000.0000
Legal   1400.0000
```