AACS3013

# TUTORIAL 11

## SQL QUERIES

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Name :

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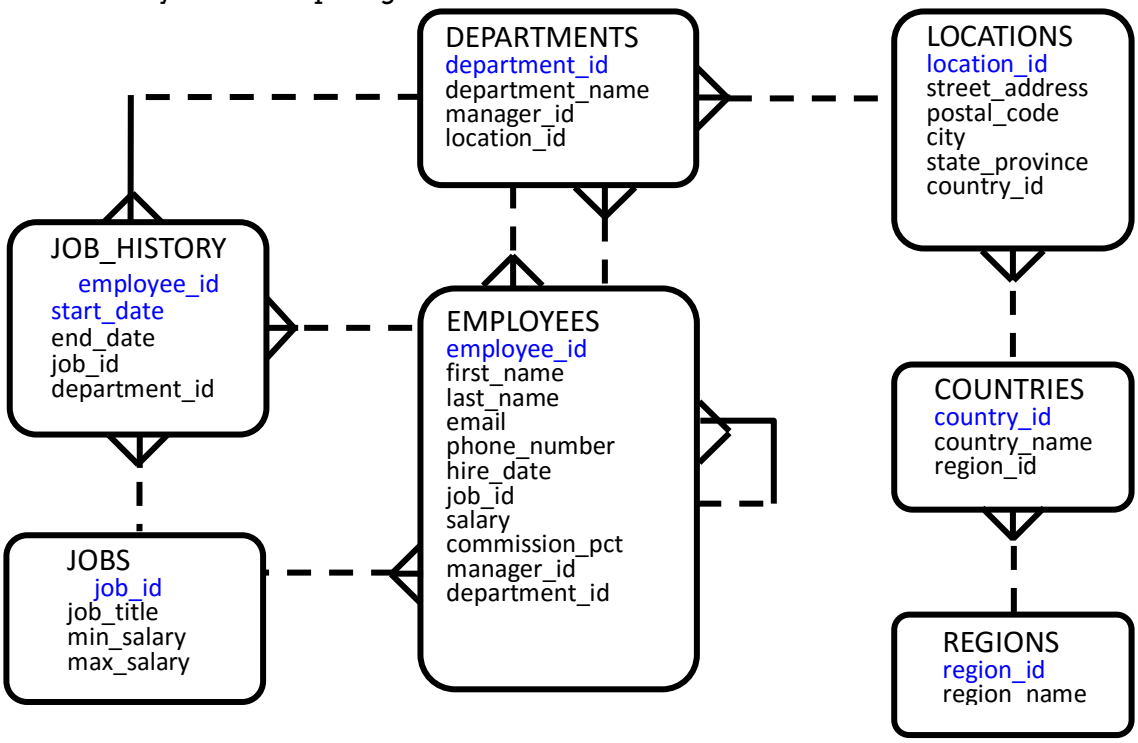
## OBJECTIVES

To provide students with understanding of normalization process and see the effect on database design

## PLEASE ANSWER ALL QUESTIONS

The **HR** Entity Relationship Diagram



## QUESTION 1

Write SQL queries to do the following:

1. Create a view that show only the employee id, first name, last name and email for employees earning more than 10,000 per month.

2. Create a view that show relevant details for employees earning more than 100,000 a year.

3. Create a view that will display the following output when queried.

```
LOCATION                              COUNTRY                          REGION
------------------------------------- --------- ---------------- -------- -------------
1200 Tokyo Prefecture                 Japan                              Asia
1400 Texas                            United States of America           Americas
1500 California                       United States of America           Americas
1600 New Jersey                       United States of America           Americas
1700 Washington                       United States of America           Americas
1800 Ontario                          Canada                             Americas
1900 Yukon                            Canada                             Americas
2100 Maharashtra                      India                              Asia
2200 New South Wales                  Australia                          Asia
2500 Oxford                           United Kingdom                     Europe
2600 Manchester                       United Kingdom                     Europe
```

where the 'LOCATION' column is location_id and state_province combined;
'COUNTRY' column is the name of a country and
'REGION' column is the name of a region
Another requirement is do not include records that do not have state_province name.

## QUESTION 2

Multiple table queries (from tutorial 3-5)
Use the 'Joins with the ON Clause' to answer the following.

4. List employees working in the state province of California.
5. List employees working in countries beginning with the letter A.
6. List all employees that had worked as a "SALES REPRESENTATIVE" previously (not including the current job).
7. Show the salary details for the IT' department.
8. List all employees and their manager (must show manager's name)
9. List all employees that work in the same country.

## QUESTION 3

OUTER JOINS

In Tutorial 3-5 previously,

Q15. How many employees had been a Stock Clerk previously?
And the solution is:

```
Select COUNT(*) as No_Of_Stock_Clerk_Previously
from Jobs J, Job_History JH
where (J.job_id = JH.job_id)      AND
    (J.job_title = 'Stock Clerk');
```

Q.16.How many current Stock Clerks are there?

And the solution is:

```
Select COUNT(*) as No_Of_Stock_Clerk_Currently
from Jobs J, Employees E
where (J.job_id = E.job_id)      AND
    (J.job_title = 'Stock Clerk');
```

With a slight modification to the above answers you could show previous and current number of staff in every job title like this:

```
(to show previous no. of staff in every job title)
Select J.job_id, J.job_title, COUNT(*) as No_Of_Staff
from Jobs J, Job_History JH
where (J.job_id = JH.job_id)
group by J.job_id, J.job_title
order by 1;

(to show current no. of staff in every job title)
Select J.job_id, , J.job_title, COUNT(*) as No_Of_Staff
from Jobs J, Employees E
where (J.job_id = E.job_id)
group by J.job_id, J.job_title
order by 1;
```

However, these solutions uses TWO separate queries to provide TWO separate output.

10. Write a query using OUTER JOIN to produce the following result that show the **previous** and **current** number of staff in each job title:
(Hint: you need to create TWO views)

```
PREVIOUS_NO CURRENT_NO JOB_ID     JOB_TITLE
----------- ---------- ---------- -----------------------------------
          2          2 AC_ACCOUNT Public Accountant
          1          1 AC_MGR     Accounting Manager
          1          1 AD_ASST    Administration Assistant
          1          5 IT_PROG    Programmer
          1          1 MK_REP     Marketing Representative
          1          5 SA_MAN     Sales Manager
          1         28 SA_REP     Sales Representative
          2         20 ST_CLERK   Stock Clerk
                     1 AD_PRES    President
                     1 MK_MAN     Marketing Manager
                     2 AD_VP      Administration Vice President

PREVIOUS_NO CURRENT_NO JOB_ID     JOB_TITLE
----------- ---------- ---------- -----------------------------------
                     1 HR_REP     Human Resources Representative
                     5 PU_CLERK   Purchasing Clerk
                     1 PR_REP     Public Relations Representative
                    20 SH_CLERK   Shipping Clerk
                     5 FI_ACCOUNT Accountant
                     1 PU_MAN     Purchasing Manager
                     5 ST_MAN     Stock Manager
                     1 FI_MGR     Finance Manager

19 rows selected.
```