

-----CODE FOR PROJECT: LILIANA BARRERA-----

```
--#1: Joining
--#2: Aggregating
--#3: Subqueries
--#4: Functions
--#5: Date format manipulation

--Describe how you made sure the data was clean and accurate.
Include at least the following concepts:
```

```
--Deduplication
--Accounting for null values (if null values are expected,
explain why)
--Ensuring no data that was needed was lost in joins or
filtering
--Ensuring no unreasonable values appear in the data
```

**-----#1: Joining Similar Tables For the Academic Schema (INNER
AND LEFT JOIN)-----**

```
-- JOINED THREE TABLES: STUDENT COURSE DETAILS, STUDENT DETAILS,  
AND PARENT INFORMATION
--STUDENT EMAIL ADDRESS ARE ALL NULL VALUES IN THE ACADEMIC  
SCHEMA
```

```
select *
from AD.AD_STUDENT_DETAILS inner join
AD.AD_PARENT_INFORMATION on AD.AD_STUDENT_DETAILS.PARENT_ID =
AD.AD_PARENT_INFORMATION.PARENT_ID
inner join
AD.AD_STUDENT_COURSE_DETAILS on AD.AD_STUDENT_DETAILS.STUDENT_ID
= AD.AD_STUDENT_COURSE_DETAILS.STUDENT_ID
ORDER BY COURSE_ID;
```

```
select* --JOINED TWO TABLES: FACULTY DETAILS AND JOBS
from AD.AD_FACULTY_DETAILS
inner join
AD.AD_JOBS on AD.AD_JOBS.JOB_ID = AD.AD_FACULTY_DETAILS.JOB_ID;
```

-----LEFT JOIN-----
--NEW TABLE CREATED TO CONCAT FIRST AND LAST NAME IN FACULTY DETAILS TABLE, THEN WITH NEW TABLE TO LEFT JOIN IT ON DEPARTMENTS TABLE

```
create table NEW_FACULTY_DETAILS as
(select FIRST_NAME || ' ' || LAST_NAME as FULL_NAME
from AD.AD_FACULTY_DETAILS);

select*
from NEW_FACULTY_DETAILS;

select*
from AD.AD_DEPARTMENTS
left join
NEW_FACULTY_DETAILS on NEW_FACULTY_DETAILS.FULL_NAME =
AD.AD_DEPARTMENTS.HOD;
```

-----#2:MONTHS_BETWEEN FUNCTION-----
--BUSINESS QUESTION_1. HOW LONG HAVE THE FACULTY BEEN EMPLOYED AT THIS SCHOOL? WHAT IS THE LENGTH OF TIME OF THEIR EMPLOYMENT? HOW MANY MONTHS HAVE PASSED BETWEEN TODAY'S DATE AND THE HIREDATE?

```
select FACULTY_ID, FIRST_NAME, LAST_NAME, JOB_ID, SALARY,
sysdate, HIRE_DATE, round(months_between(sysdate, HIRE_DATE)/12)
as YEARS_EMPLOYED
from AD.AD_FACULTY_DETAILS
order by YEARS_EMPLOYED desc;
```

-----#3: DATE FORMAT -----

```
select FACULTY_ID, FIRST_NAME, LAST_NAME, JOB_ID, SALARY,
to_char(HIRE_DATE,'MON-DD-YYYY') as EMPLOYMENT_START_DATE --FOR
FACULTY DETAILS TABLE
from AD.AD_FACULTY_DETAILS
order by HIRE_DATE desc;
```

```

select STUDENT_ID, FIRST_NAME,
to_char(STUDENT_REG_YEAR, 'MON-DD-YYYY') as STUDENT_YEAR --FOR
STUDENT DETAILS TABLE
from AD.AD_STUDENT_DETAILS
order by STUDENT_REG_YEAR desc;

```

-----#4: AGGREGATE FUNCTION: AVERAGE OF SALARY-----

--BUSINESS QUESTION_2: WHAT IS THE AVERAGE SALARY BY JOB ID/JOB TITLE IN DESCENDING ORDER AND CONDITION WHERE JOB ID INCLUDES HOD = HEAD OF DEPARTMENT

--SHOWS THE AVERAGE SALARIES OF THE HEAD OF THE DEPARTMENTS

```

select JOB_ID, FACULTY_ID, FIRST_NAME, LAST_NAME, avg(SALARY) as
AVG_SALARY
from AD.AD_FACULTY_DETAILS
where JOB_ID like '%HOD'
group by JOB_ID, FACULTY_ID, FIRST_NAME, LAST_NAME
order by AVG(SALARY) desc;

```

-----AVERAGE SALARY BY JOB TITLE (DESCENDING ORDER)-----

```

select JOB_TITLE, FIRST_NAME, LAST_NAME, avg(SALARY) as
AVG_SALARY
from AD.AD_FACULTY_DETAILS
inner join
AD.AD_JOBS on AD.AD_JOBS.JOB_ID = AD.AD_FACULTY_DETAILS.JOB_ID
group by JOB_TITLE, FIRST_NAME, LAST_NAME
order by AVG_SALARY desc;

```

--BUSINESS QUESTION_3: HOW MANY EMPLOYEES HAVE THE SAME JOB TITLE?

-- (USED COUNT FUNCTION TO FIND NUMBER OF EMPLOYEES WITH THE SAME JOB TITLE)

```
select  JOB_TITLE, FIRST_NAME, LAST_NAME, MIN_SALARY,
MAX_SALARY, count(*) as NUMBER_OF_EMPLOYEES
from AD.AD_FACULTY_DETAILS
inner join
AD.AD_JOBS on AD.AD_JOBS.JOB_ID = AD.AD_FACULTY_DETAILS.JOB_ID
group by JOB_TITLE,  FIRST_NAME, LAST_NAME, MIN_SALARY,
MAX_SALARY
having MAX_SALARY > 16000 and MIN_SALARY < 30000;
```

-----#5: SUBQUERIES-----

```
select FACULTY_ID,  JOB_ID, FIRST_NAME, LAST_NAME, SALARY,
(select avg(SALARY) from AD.AD_FACULTY_DETAILS) as AVG_SALARY
from AD.AD_FACULTY_DETAILS;
```

---BUSINESS QUESTION_4: WHAT IS THE COUNT OF UNIQUE COURSES TAKEN BY STUDENTS?-----

```
select count(distinct COURSE_ID) as NUMBER_OF_COURSES
from
(select*
from AD.AD_STUDENT_DETAILS
inner join
AD.AD_STUDENT_COURSE_DETAILS on AD.AD_STUDENT_DETAILS.STUDENT_ID
= AD.AD_STUDENT_COURSE_DETAILS.STUDENT_ID
ORDER BY COURSE_ID);
```

-----BUSINESS QUESTION_5: WHICH JOB TITLES HAVE THE LOWEST AND HIGHEST SALARY range?-----

```
select*
from AD.AD_JOBS
order by MAX_SALARY desc, MIN_SALARY;
```

**-----DETECTING ANOMALIES IN THE DATA: REMOVING DUPLICATE
ROWS AND NULL VALUES IN DATA?-----**

**---TRYING TO TROUBLESHOOT HOW TO REMOVE DUPLICATE ROWS AND NULL
VALUES FROM MY TABLES IN MY SCHEMA**

```
select STUDENT_ID, FIRST_NAME, PARENT_ID, STUDENT_REG_YEAR,  
COURSE_ID  
from  
(select*  
from AD.AD_STUDENT_DETAILS  
inner join  
AD.AD_STUDENT_COURSE_DETAILS on AD.AD_STUDENT_DETAILS.STUDENT_ID  
= AD.AD_STUDENT_COURSE_DETAILS.STUDENT_ID  
ORDER BY COURSE_ID)  
group by STUDENT_ID, FIRST_NAME, PARENT_ID, STUDENT_REG_YEAR,  
COURSE_ID;
```

```
select STUDENT_ID, COURSE_ID, count(*)  
from AD.AD_STUDENT_COURSE_DETAILS  
group by STUDENT_ID, COURSE_ID  
having count(*) > 1;
```

```
-----  
select*  
from AD.AD_STUDENT_DETAILS;
```

```
delete from AD.AD_STUDENT_DETAILS  
where EMAIL_ADDR = NULL;
```