

Ex No:5

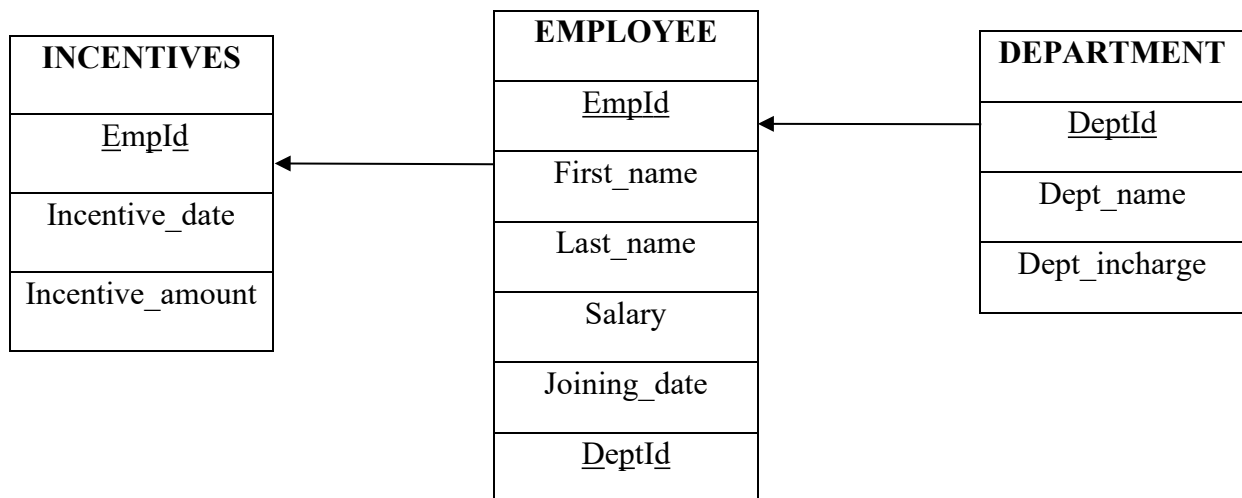
SQL-COMPLEX QUERIES

Date : 28.02.2023

Aim:

To create the database for given schema diagram using oracle environment and answer the given set of simple queries.

Schema diagram:



Data dictionary:

Employee relation :

| Attribute | Data type | constraint | Remarks |
|--------------|-------------|-------------|--------------------------|
| EmpId | Varchar(50) | Primary key | Unique ID of employee |
| First_name | Varchar(50) | — | First name of employee |
| Last_name | Varchar(50) | — | Last name of employee |
| Salary | number | — | Salary of employee |
| Joining_date | date | — | Joining date of employee |
| DeptId | Varcha(50) | Foreign key | Refers department table |

Department relation:

| Attribute | Data type | Constraints | Remarks |
|---------------|-------------|-------------|-------------------------|
| DeptId | Varchar(50) | Primary key | Unique ID of department |
| Dept_name | Varchar(50) | — | Department name |
| Dept_incharge | Varchar(50) | — | Department incharge |

Incentives relation:

| Attribute | Data type | Constraints | Remarks |
|------------------|-------------|-------------|-----------------------|
| EmpId | Varchar(50) | Foreign key | Refers employee table |
| Incentive_date | date | — | Incentives of date |
| Incentive_amount | Number | — | Incentives of amount |

Procedure:

QUERIES:

1. Get department wise minimum salary from employee table order by salary.

select *

from employee

where salary in

(select min(salary)

from employee

group by deptid)

order by salary asc;

The screenshot shows the Oracle APEX SQL Workshop interface. The query editor contains the following SQL code:

```
1 MINAL salary in
2 (select min(salary)
3 from employee
4 group by deptid)
5 order by salary asc;
```

The results pane displays a table with 6 rows and 7 columns: EMPID, FIRSTNAME, LASTNAME, SALARY, JOINDATE, and DEPTID. The data is as follows:

| EMPID | FIRSTNAME | LASTNAME | SALARY | JOINDATE | DEPTID |
|-------|------------|----------|--------|------------|--------|
| 1 | kathier | khamar | 10000 | 08/12/2004 | 111 |
| 12 | manoj | kumar | 20000 | 07/07/2004 | 222 |
| 2 | arun | kumar | 20000 | 09/30/2005 | 222 |
| 6 | harisharan | rk | 23000 | 11/19/2004 | 333 |
| 8 | jason | kingsley | 35000 | 02/09/2005 | 444 |
| 5 | sachin | ram | 35000 | 12/25/2002 | 444 |

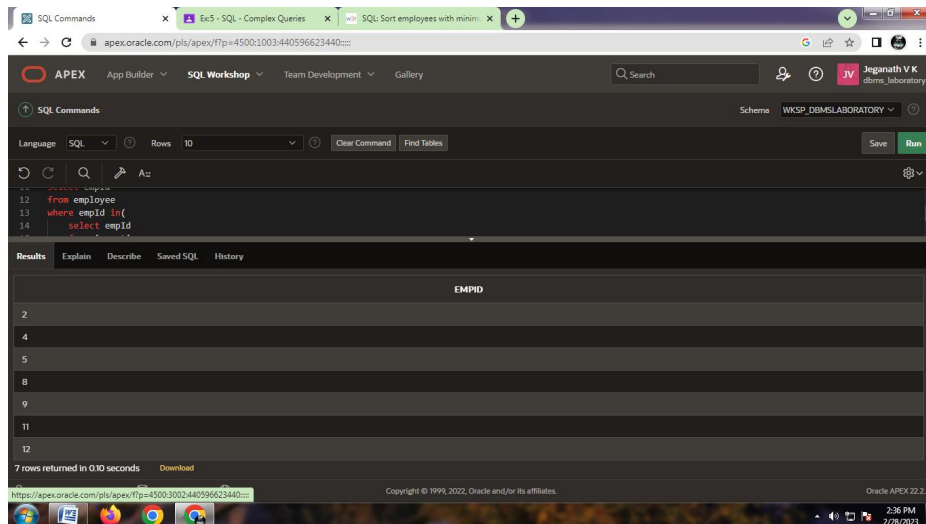
6 rows returned in 0.01 seconds

```
group by deptId;
```



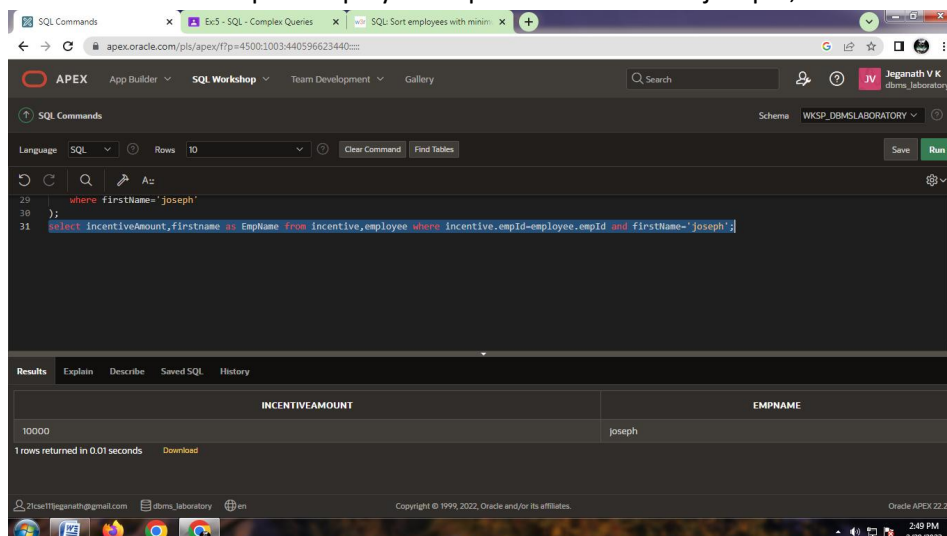
4. Get Employee ID's of those employees who didn't receive incentives without using sub query.

```
select empld  
from employee  
minus  
select empld  
from incentive;
```



5. Update the incentives of 'Joseph' to 10,000.

```
update incentive  
set incentiveAmount=10000  
where empld in(  
    select empld  
    from employee  
    where firstName='joseph'  
);  
select incentiveAmount,firstname as EmpName  
from incentive,employee  
where incentive.empld=employee.empld and firstName='joseph';
```



6. List the employees who are from the same department as 'Jhon'.

```
select *  
from employee  
where deptId=(  
    select deptId from employee where firstName='john'  
);
```

The screenshot shows the Oracle APEX SQL Workshop interface. The SQL command entered is: `select incentiveAmount,firstname as EmpName from incentive,employee where incentive.empId=employee.empId and firstName='joseph';`. The results table displays 4 rows of data:

| EMPID | FIRSTNAME | LASTNAME | SALARY | JOINDATE | DEPTID |
|-------|-----------|----------|--------|------------|--------|
| 6 | hariharan | rk | 23000 | 11/19/2004 | 333 |
| 16 | john | durairaj | 30000 | 10/09/2003 | 333 |
| 4 | gowtham | kumar | 25000 | 06/09/2004 | 333 |
| 10 | prem | kumar | 45000 | 07/28/2002 | 333 |

4 rows returned in 0.01 seconds

7. List the total incentive amount received by each employee.

```
select sum(incentiveAmount) as totalIncentive  
from incentive;
```

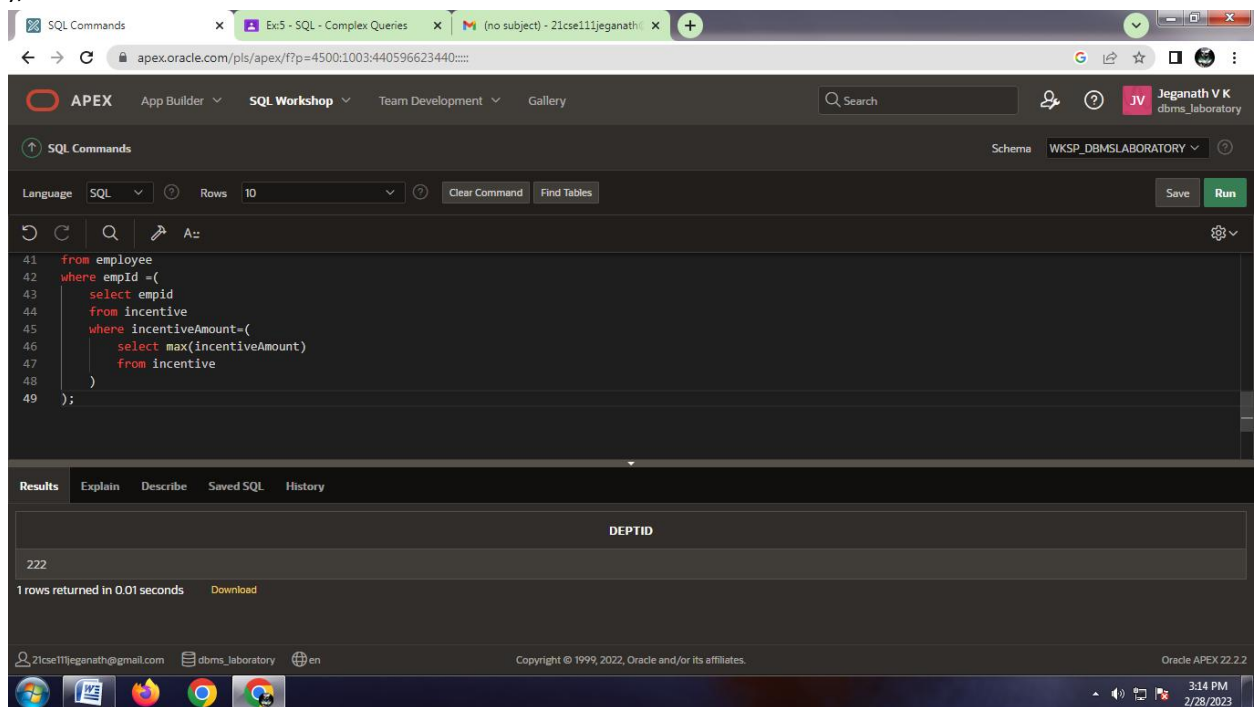
The screenshot shows the Oracle APEX SQL Workshop interface. The SQL command entered is: `select sum(incentiveAmount) as totalIncentive from incentive;`. The results table displays 1 row of data:

| TOTALINCENTIVE |
|----------------|
| 20250 |

1 rows returned in 0.00 seconds

8. Give the department which has received highest incentive amount.

```
select deptid
from employee
where emplid =(
    select emplid
    from incentive
    where incentiveAmount=(
        select max(incentiveAmount)
        from incentive
    )
);
```



9. List the incentive date of the employees in 'February 28, 2023' format along with their name on which the employees have received their maximum incentives.

```
select firstname as NameofEmployee,extract(day from
incentivedate)||to_char(incentivedate,'month')||extract(year from incentivedate) as
dateofincentive
from employee natural join incentive
where emplid in(
    select emplid
    from incentive
    where incentiveamount in(
        select max(incentiveamount)
        from incentive
        group by emplid
    )
);
```

The screenshot shows the Oracle APEX SQL Workshop interface. The query executed is:

```
select * from incentive;
select first_name as NameofEmployee, extract(day from incentive_date)||to_char(incentive_date,'month')||extract(year from incentive_date) as dateofincentive
```

The results table shows 6 rows:

| NAMEOFEEMPLOYEE | DATEOFINCENTIVE |
|-----------------|-----------------|
| kathier | 15august 2013 |
| hariharan | 12december 2011 |
| dinesh | 12december 2019 |
| joseph | 11july 2010 |
| ajay | 20april 2010 |
| prem | 19may 2003 |

6 rows returned in 0.02 seconds

10. Increment the least incentive received by of each employee by 10%.

update incentive

set incentiveAmount=IncentiveAmount+(IncentiveAmount*0.10)

where incentiveamount in (

select min(incentiveamount)

from incentive

group by empld

);

select * from incentive;

The screenshot shows the Oracle APEX SQL Workshop interface. The query executed is:

```
select empId
from employee
where firstName='joseph';
select incentiveAmount first_name as EmpName from incentive employee where incentive_empId=employee_empId and firstName='joseph';
```

The results table shows 6 rows:

| EMPID | INCENTIVEDATE | INCENTIVEAMOUNT |
|-------|---------------|-----------------|
| 6 | 12/12/2011 | 2200 |
| 3 | 04/20/2010 | 1100 |
| 7 | 12/12/2019 | 1650 |
| 1 | 08/15/2013 | 9075 |
| 10 | 05/19/2003 | 5500 |
| 15 | 07/11/2010 | 11000 |

6 rows returned in 0.00 seconds

| Parameter | marks |
|-----------------------------|-------|
| Perfection in the table(05) | |
| Query standards(05) | |
| Completion(05) | |
| Neatness(05) | |
| Prompt timing(05) | |
| Total(25) | |

Result:

The given simple SQLComplex-Queries are executed successfully.