SQL

Please use MSSQL/MYSQL/Oracle for the following, First question(Q1) is mandatory:

1. Write a SQL query to create these tables in your database and insert the data into these tables with the following characteristics:
2. a. Add the primary key "Emp_ID" to the Employees Table. Also, mention what are the constraints used in SQL.
3. b. Add foreign key "EMP_REF_ID" in Variables Details and Designation Table that references "Emp_ID" in Employees Table

Answer:

a.

Create table employees(
Emp_id int(10) not null,
F_name varchar(25) not null,
L_name varchar(25),
Salary int(10),
Joining_data datetime,
Department varchar(10),
Primary key(emp_id)
);

Insert into employees values(001 Manish Agarwal 700000 2019-04-20 09:00:00 HR);

Insert into employees values(002 Niranjan Bose 20000 2019-02-11 09:00:00 DA);

Insert into employees values(003 Vivek Singh 100000 2019-01-20 09:00:00 DA);

Insert into employees values(Asutosh Kapoor 700000 2019-03-20 09:00:00 HR);

Insert into employees values(005 Vihaan Banerjee 300000 2019-06-11 09:00:00 DA);

Insert into employees values(006 Atul Diwedi 400000 2019-05-11 09:00:00 Account);

Insert into employees values(007 Satyendra Tripathi 95000 2019-03-20 09:00:00 Account);

Insert into employees values(008 Pritika Bhatt 80000 2019-02-11 09:00:00 DA);

Select * from employees;

b.

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Create table varialdetails(
Emp_ref_id int(10) not null,
Variable_data datetime,
Variable_amount int(10),
Foreign key(Emp_ref_id)
);

Insert into varialdetails values(1 2019-02-20 00:00:00 15000);
Insert into varialdetails values(2 2019-06-11 00:00:00 30000);
Insert into varialdetails values(3 2019-02-20 00:00:00 42000);
Insert into varialdetails values(4 2019-02-20 00:00:00 14500);
Insert into varialdetails values(5 2019-06-11 00:00:00 23500);

Create designation table(
Emp_ref_id int(10),
Emp_title varchar(25),
Affeted_from datetime,
Foreign key(Emp_ref_id)
);

Insert into designation table values(1 Asst. Manager 2019-02-20
00:00:00);
Insert into designation table values(2 Senior Analyst 2019-01-11
00:00:00);
Insert into designation table values(8 Senior Analyst 2019-04 -06
00:00:00);
Insert into designation table values(5 Manager 2019-10-06 00:00:00);
Insert into designation table values(4 Asst. Manager 2019-12-06
00:00:00);
Insert into designation table values(7 Team Lead 2019-06-06 00:00:00);
Insert into designation table values(6 Team Lead 2019-09-06 00:00:00);
Insert into designation table values(3 Senior Analyst 2019-08-06
00:00:00);
```

2. Name the four different types of joins? Give examples of each by performing all the joins on the Employees table and Designation Table.

-->The four different types of joins are:
  ➢ Sql inner join
  ➢ Sql left outer join
  ➢ Sql right outer join
  ➢ Sql full outer join

A. Write a query to get the employee details(columns - full name and department) of those who received the highest and the least variables

--->
Select F_name, department
from employee left join Variabledetails on employees.Emp_id = variabledetails.Emp_ref_id
where Variables_amount = all(select Max (Variable_amount) And
 Variable_amount All(select min(Variable_amount)
from Variable_details group by department_id);

b. Write a query to get the designation which has got the highest and second lowest amount (salary + variables) for the whole year of 2019. Get the corresponding amount values.

--->
select Emp_title from designation
Where (select D1.salary as salary, D2.Variable_amount as variable, D1 salary + D2.Variable_amount
From employees as D1 join Variable_detail as D@ on D1.Emp_id = D2.Variable_detail)
Order by amount desc where rownum = 2 and rownum = -1
join employees on employees.Emp_id = destination.Emp_ref_id
join Variable_details on designation.Emp_ref_id = variable_details.Emp_ref_id;

c. What is cross join? Write a query to give an example of the same by performing it on the Employees table and Designation table. d. What are the clauses used with Select statements and what are the preference orders of it?

--->

The SQL CROSS JOIN produces a result set which is the number of rows in the first table multiplied by the number of rows in the second table if no WHERE clause is used along with CROSS JOIN.This kind of result is called as Cartesian Product.

Select * from employees CROSS JOIN designation;

d. What are the clauses used with Select statements and what are the preference orders of it?

--->

The SELECT statement has the following clauses:
•SELECT
•FROM
•WHERE
•GROUP BY
•HAVING
•ORDER BY
•OFFSET
•FETCH FIRST
•UNION
•INTERSECT
•EXCEPT
•WITH

3. What is the stored procedure?
--->   A stored procedure is a prepared SQL code that you can save, so the code can be reused over and over again.
So if you have an SQL query that you write over and over again, save it as a stored procedure, and then just call it to execute it.

a. Write a query to get the employee details who got their designations updated in the second half of the year 2019(July to December), sorted by the "variables_amount" (highest to lowest)

---->

Select F_name, department_id
From employees
Where Affeted_from in (july, december)
Order by Variable_amount asc;

b. Write a stored procedure to call the query that you have written for Q2.a

--->

create procedure employee detail
As select F_name, department
from employees
left join variable_details on employeeEmp_id =
variable_details.Emp_ref_id
where variable_amount = All (select Max (variable_amount) and
variable_amount All (select min (variable_amount)
From variable_details group by department_id)
Go;