Sr. | **Practical**

Lab-1 [R-1]

Create Database with Name: **Student_Info**

Create following table under Student_Info database. (Using Design Mode)

Student	
Column_Name	**DataType**
StuID	Int
Name	Varchar (100)
EnrollmentNo	Varchar (12)
Division	Varchar (50)
Sem	Int
BirthDate	Datetime
Email	Varchar (100)
ContactNo	Varchar (50)

StuID	Name	EnrollmentNo	Division	Sem.	BirthDate	Email	ContactNo
101	Naimish Patel	090200107051	BCX-3	3	1992-12-06	naimishp49@gmail.com	8866205253
102	Firoz A. S.	090200107090	BCY-3	3	1994-05-03	Firoz.me@gmail.com	8885999922
103	Krunal Vyas	090243107101	BCZ-5	5	1984-03-01	Krunal.vyas@gmail.com	9990888877
104	Vijay Patel	090200107102	BCX-5	5	1985-02-15	Vijay.patel123@gmail.com	8787878787
105	Vimal Trivedi	090200107103	BCY-3	3	1988-01-20	Maulik123@gmail.com	8789564512

From the above given table perform the following queries:

1. Display Name of Student who belongs to either Semester 3 or 5. (Use IN & OR)
2. Find Student Name & Enrollment No in which Student Id between 103 to 105.
3. Find Student Name & Enrollment No with their Email Who belongs to 5th Semester.
4. Display All the Details of first three students.
5. Display Name & Enrollment no of first 30% Students who's contact number ends with 7.
6. Display Unique Semesters.
7. Retrieve All the Students who have no Enrollment.
8. Find All Students whose Name does not start with 'V'.
9. Find All Students in which Email Contains '3@G' & Only Six Characters.
10. Find Out All the Students whose First Name Starts with F And third character must be R.
11. Find All the Student Details whose Contact No contains 877.
12. Display Student Name in Which Student belongs to Semester 3 & Contact Number Does Not Contains 8 & 9.
13. Find Students who born after date 01-01-1990.
14. Update Division to BCX-5 & Semester 5 whose Student Id Is 102.
15. Change the Student's Name to Firoz Sherasiya in which Email is Firoz.Me@Gmail.Com & Contact No is 8885999922.
16. Add one more Column City Varchar (50) in Student Table.
17. Remove All BCX-3 Division Students.
18. Change Column Name Email to EmailAddress.
19. Write an SQL query to clone a new table Student_New from Student table with all data.
20. Remove All the Data from Student Table Using Truncate.

Lab-2 [R-2]

Create Database with Name: **Employee_Info**

Create following table under Employee_Info database. (Using Query)

Employee	
Column_Name	**DataType**
EID	Int
EName	Varchar (100)
Gender	Varchar (10)
JoiningDate	Datetime
Salary	Decimal (8,2)
City	Varchar (100)

EID	EName	Gender	JoiningDate	Salary	City
1	Nick	Male	01-JAN-13	4000	London
2	Julian	Female	01-OCT-14	3000	New York
3	Roy	Male	01-JUN-16	3500	London
4	Tom	Male	*NULL*	4500	London
5	Jerry	Male	01-FEB-13	2800	Sydney
6	Philip	Male	01-JAN-15	7000	New York
7	Sara	Female	01-AUG-17	4800	Sydney
8	Emily	Female	01-JAN-15	5500	New York
9	Michael	Male	*NULL*	6500	London
10	John	Male	01-JAN-15	8800	London

From the above given table perform the following queries:

1. Display all the employees whose name starts with “m” and 4 th character is “h”.
2. Find the value of 3 raised to 5. Label the column as output.
3. Write a query to subtract 20 days from the current date.
4. Write a query to display name of employees whose name starts with “j” and contains “n” in their name.
5. Display 2nd to 9th character of the given string “SQL Programming”.
6. Display name of the employees whose city name ends with “ney” &contains six characters.
7. Write a query to convert value 15 to string.
8. Add department column with varchar (20) to Employee table.
9. Set the value of department to Marketing who belongs to London city.
10. Display all the employees whose name ends with either “n” or “y”.
11. Find smallest integer value that is greater than or equal to 63.1, 63.8 and -63.2.
12. Display all employees whose joining date is not available.
13. Display name of the employees in capital letters and city in small letters.
14. Change the data type of Ename from varchar (30) to char (30).
15. Display city wise maximum salary.
16. Produce output like <Ename> works at <city> and earns <salary> (In single column).
17. Find total number of employees whose salary is more than 5000.
18. Write a query to display first 4 & last 3 characters of all the employees.
19. List the city having total salaries more than 15000 and employees joined after 1st January, 2014.
20. Write a query to replace “u” with “oo” in Ename.
21. Display city with average salaries and total number of employees belongs to each city.
22. Display total salaries paid to female employees.
23. Display name of the employees and their experience in years.
24. Remove column department from employee table.
25. Update the value of city from syndey to null.

26. Retrieve all Employee name, Salary & Joining date.
27. Find out combine length of Ename & Gender.
28. Find the difference between highest & lowest salary.
29. Rename a column from Ename to FirstName.
30. Rename a table from Employee to EmpMaster.

Lab-3 [R-3]

Create Database with Name: **Person_Info**

Create following table under Person_Info database. (Using Design Mode)

Person		
Column_Name	**DataType**	**Constraints**
PersonID	Int	Primary Key
PersonName	Varchar (100)	Not Null
DepartmentID	Int	Foreign Key, Null
Salary	Decimal (8,2)	Not Null
JoiningDate	Datetime	Not Null
City	Varchar (100)	Not Null

Department		
Column_Name	**DataType**	**Constraints**
DepartmentID	Int	Primary Key
DepartmentName	Varchar (100)	Not Null, Unique
DepartmentCode	Varchar (50)	Not Null, Unique
Location	Varchar (50)	Not Null

PersonID	PersonName	DepartmentID	Salary	JoiningDate	City
101	Rahul Tripathi	2	56000	01-01-2000	Rajkot
102	Hardik Pandya	3	18000	25-09-2001	Ahmedabad
103	Bhavin Kanani	4	25000	14-05-2000	Baroda
104	Bhoomi Vaishnav	1	39000	08-02-2005	Rajkot
105	Rohit Topiya	2	17000	23-07-2001	Jamnagar
106	Priya Menpara	*NULL*	9000	18-10-2000	Ahmedabad
107	Neha Sharma	2	34000	25-12-2002	Rajkot
108	Nayan Goswami	3	25000	01-07-2001	Rajkot
109	Mehul Bhundiya	4	13500	09-01-2005	Baroda
110	Mohit Maru	5	14000	25-05-2000	Jamnagar

DepartmentID	DepartmentName	DepartmentCode	Location
1	Admin	Adm	A-Block
2	Computer	CE	C-Block
3	Civil	CI	G-Block
4	Electrical	EE	E-Block
5	Mechanical	ME	B-Block

From the above given table perform the following queries:

1. Find all persons with their department name & code.
2. Give department wise maximum & minimum salary with department name.
3. Find all departments whose total salary is exceeding 100000.
4. Retrieve person name, salary & department name who belongs to Jamnagar city.
5. Find all persons who does not belongs to any department.
6. Find department wise person counts.

7. Find average salary of person who belongs to Ahmedabad city.
8. Produce Output Like: <PersonName> earns <Salary> from department <DepartmentName> monthly. (In single column)
9. List all departments who have no persons.
10. Find city & department wise total, average & maximum salaries.
11. Display Unique city names.
12. List out department names in which more than two persons.
13. Combine person name's first three characters with city name's last three characters in single column.
14. Give 10% increment in Computer department employee's salary.
15. Display all the person name's who's joining dates difference with current date is more than 365 days.

Lab-4 [R-4]

Create Database with Name: **Worker_Info**

Create following table under Worker_Info database. (Using Design Mode)

Person

Column_Name	DataType	Constraints
WorkerID	Int	Primary Key, Auto Increment
FirstName	Varchar (100)	Not Null
LastName	Varchar (100)	Not Null
Salary	Decimal (8,2)	Not Null
JoiningDate	Datetime	Not Null
DepartmentID	Int	Foreign Key, Null
DesignationID	Int	Foreign Key, Null

Department

Column_Name	DataType	Constraints
DepartmentID	Int	Primary Key
DepartmentName	Varchar (100)	Not Null, Unique

Designation

Column_Name	DataType	Constraints
DesignationID	Int	Primary Key
DesignationName	Varchar (100)	Not Null, Unique

WorkerID	FirstName	LastName	Salary	JoiningDate	DepartmentID	DesignationID
101	Rahul	Anshu	56000	01-01-1990	1	12
102	Hardik	Hinsu	18000	25-09-1990	2	11
103	Bhavin	Kamani	25000	14-05-1991	*NULL*	11
104	Bhoomi	Patel	39000	20-02-2014	1	13
105	Rohit	Rajgor	17000	23-07-1990	2	15
106	Priya	Mehta	25000	18-10-1990	2	*NULL*
107	Neha	Trivedi	18000	20-02-2014	3	15

DepartmentID	DepartmentName
1	Admin
2	IT
3	HR
4	Account

DesignationID	DesignationName
11	Jobber
12	Welder
13	Clerk
14	Manager
15	CEO

From the above given tables perform the following queries:

- **Stored Procedures**
  1. All tables Insert, Update & Delete
  2. All tables SelectAll (If foreign key is available than do write join and take columns on select list)
  3. All tables SelectPK
  4. Create Procedure that takes Department Name & Designation Name as Input and Returns a table with Worker's First Name, Salary, Joining Date & Department Name.
  5. Create Procedure that takes FirstName as an input parameter and displays' all the details of the worker with their department & designation name.
  6. Create Procedure which displays department wise maximum, minimum & total salaries.
- **Views**
  1. Create a view that display first 100 workers details.
  2. Create a view that displays designation wise maximum, minimum & total salaries.
  3. Create a view that displays Worker's first name with their salaries & joining date, it also displays duration column which is difference of joining date with respect to current date.
  4. Create a view which shows department & designation wise total number of workers.
  5. Create a view that displays worker names who don't have either in any department or designation.
- **User Defined Functions**
  1. Create a table valued function which accepts DepartmentID as a parameter & returns a worker table based on DepartmentID.
  2. Create a table valued function which returns a table with unique city names from worker table.
  3. Create a scalar valued function which accepts two parameters start date & end date, and returns a date difference in days.
  4. Create a scalar valued function which accepts two parameters year in integer & month in integer and returns total days in passed month & year.
  5. Create a scalar valued function which accepts two parameters year in integer & month in integer and returns first date in passed month & year.