Date

Expt. No. _____ Page No. 13

Pseudo Columns ⇒

Pseudo columns are associated with the table data but it has nothing to do with the table.

There are two type of pseudo columns:-

1. **Row ID** → It is a physical memory location on which data of one row is stored. It is a 18bit hexadecimal number which uniquely identify the particular row.

2. **Row Number** → It is a logical column which assigns a sequence number to the row in the table.

Datatypes

1. **Char** → It is a fixed length character data of length size byte. By default is 1byte per row and maximum size is 2000 byte per row.

2. **Varchar** → Variable length character data, variable for each row upto 4000 byte per row.

3. **Long** → Variable length character data, variable for each row in the table upto 2gb per row.

4. **Number (P,S)** → It is a variable length numeric data having maximum precision P and S is 38.

5. **Date** → Fixed length data and time, date, default string is DD/MM/YYYY

Teacher's Signature _____

Date

Expt. No. Page No. 24

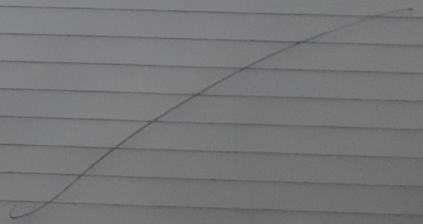
6. Float → It is subtype of Number data type. The precision ranges from 1 to 126.

7. Text → It is a variable width character string data type. Its size can be upto 2 gb of text data.

8. Binary → It is fixed length Binary string data type. Its size can be upto 8000 bytes.

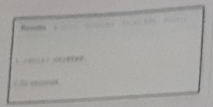
9. Money → It is used to specify monetary data from -922,337,203,685,477.5808 to 922,337,203,685,477.5807.

10. Time → It stores time. It can store time with accuracy of 100 nanoseconds.

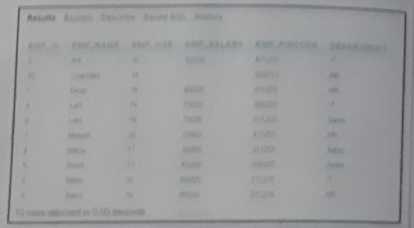


Teacher's Signature

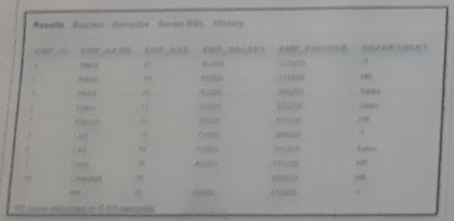
Outputs



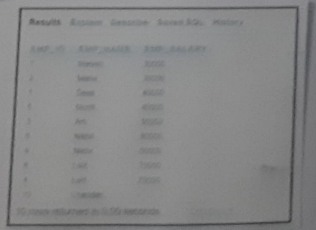
Query 2.0



Query 2.1



Query 2.2



Query 2.3

Date 21/8/22

Expt. No. _____ Page No. 21

Query 20 → Delete a row from a table

```
Delete from Employee
where Emp_ID = 10;
```

Order By ⇒

→ It is used to sort the row records in ascending and descending order.

→ By default it sorts the data in ascending order.

→ We can use keyword 'DESC' to sort data in descending order and keyword 'ASC' to sort in ascending order.

→ If we are using many columns in SQL then Order by would be the last clause.

→ If we apply the order by clause the column with NULL values then NULL values will either be placed first (for descending order) and last (ascending order).

Query 21.1 → Fetch details by ordering names

```
Select * from Employee
Order by Emp_Name
```

Query 21.2 → Fetch details in descending order of name.

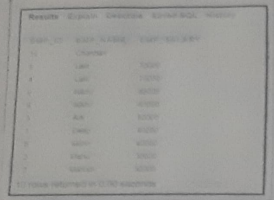
```
Select * from Employee
Order by Emp_Name Desc.
```

Query 21.3 → Fetch few details in order by Salary

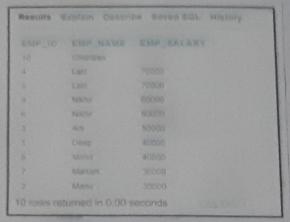
```
Select Emp_ID, Emp_Name, Emp_Salary from Employee
Order by Emp_Salary Asc
```

Teacher's Signature _____

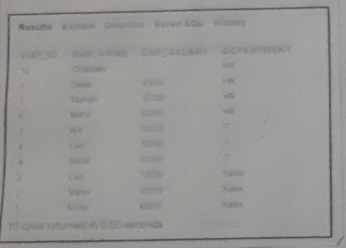
Outputs



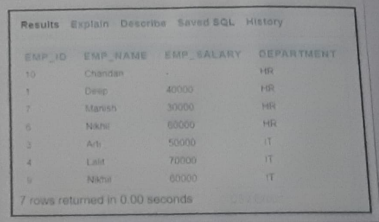
Query 21.4



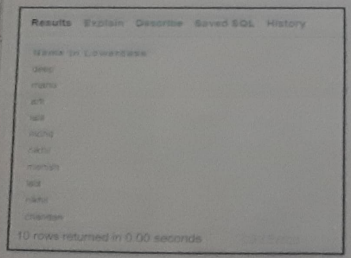
Query 21.5



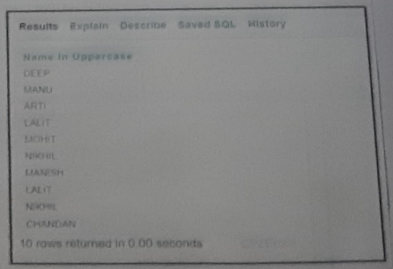
Query 21.5



Query 21.7



Query 22.1



Query 22.2

Expt. No. Page No. 22

Date

Query 21.4 → Fetch details ordering by Salary in descending order.

```
Select Emp_ID, Emp_Name, Emp_Salary from Employee
Order by Emp_Salary DESC
```

Query 21.5 → Fetch details: name in ascending order and salary in descending order

```
Select Emp_ID, Emp_Name, Emp_Salary From Employee
Order by Emp_Salary desc, Emp_Name Asc
```

Query 21.6 → Fetch details ordered by Department and name

```
Select Emp_ID, Emp_Name, Emp_Salary, Department
Order by Department, Emp_Name ASC
```

Query 21.7 → Fetch details order by Department in HR and IT

```
Select Emp_ID, Emp_Name, Emp_Salary, Department from Employee
where Department in ('HR', 'IT')
Order by Department ASC, Emp_Name ASC
```

Query 22.1 → Fetch names in Lower Case

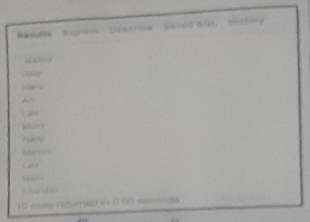
```
Select lower(Emp_Name) as Name in lowercase from Employee
```

Query 22.2 → Fetch names in upper case

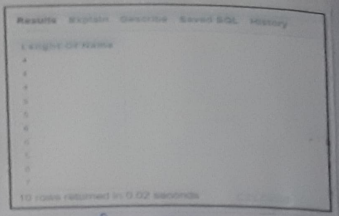
```
Select upper(Emp_Name) as 'Name in Uppercase' from Employee
```

Teacher's Signature

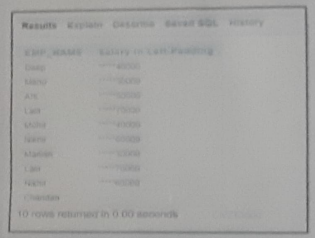
Outputs



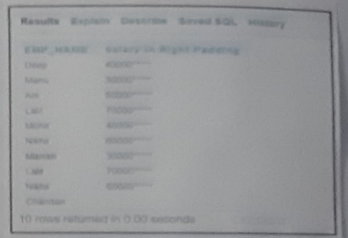
Query 22.3



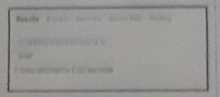
Query 22.4



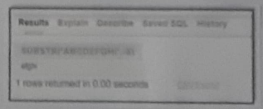
Query 22.5



Query 22.6



Query 22.6



Query 22.7

Date

Expt. No.

Page No. 23

Query 22.3 → Fetch names with First letter capital

Select initcap(Emp_Name) as 'Name' from Employee

Query 22.4 → Fetch the length of names

Select length(Emp_Name) as "Length of Name" from Employee

Query 22.5 → Fetch name and salary (with left padding)

Select Emp_Name, lpad(Emp_Salary, 10, '*') as 'Salary in Left padding' from Employee

Query 22.6 → Fetch name and salary (with right padding)

Select Emp_Name, rpad(Emp_Salary, 10, '*') as 'Salary in right padding' from Employee

Query 22.7 → Fetch a substring from 'abcdefghi' 2 5

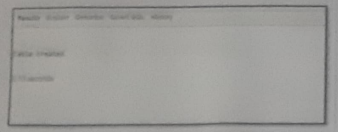
Select substr('abcdefghi', 2, 5) from Dual

Query 22.8 → Fetch a substring from 'abcdefghi' using negative value

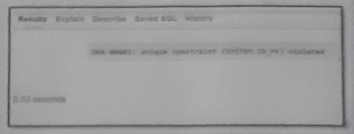
Select substr('abcdefghi', -5) from Dual

Teacher's Signature

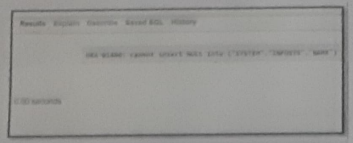
Output



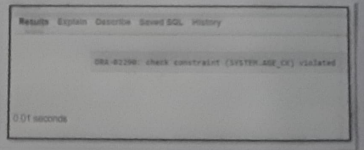
Query 23



Query 24.1



Query 24.2



Query 24.3.

Date 28/3/22

Expt. No. _____ Page No. 24

Query 23 → Create a table with constraints.

```
Create table Infosys
(ID number(6) constraint ID_PK Primary Key,
Name Varchar(60) constraint Name_NN Not NULL,
Age number(6) constraint Age_Ck Check (Age>18),
Email varchar(60) constraint Email_UQ Unique,
Salary number(8) constraint Salary_NN Not NULL,
Bonus number(6));
```

Query 24.1 → Insert new row with same primary key.

```
Insert into Infosys (ID, Name, Age, Email, Salary, Bonus)
Values (2, 'Ankit', 20, Ankit@gmail.com, 70000, 10000);
```

Query 24.2 → Insert a row with NULL value of name

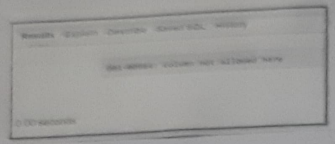
```
Insert into Infosys (ID, Age, Email, Salary, Bonus)
Values (9, 20, Ankit@gmail.com, 70000, 10000);
```

Query 24.3 → Insert row with age below constraint.

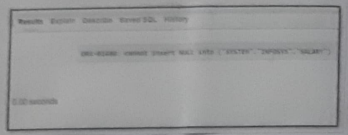
```
Insert into Infosys (ID, Name, Age, Email, Salary, Bonus)
Values (6, 'Ankit', 12, Ankit@gmail.com, 70000, 10000);
```

Teacher's Signature _____

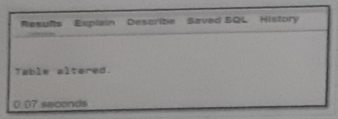
Output



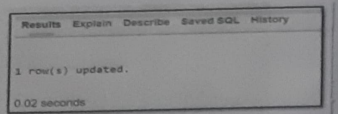
Query 24.4



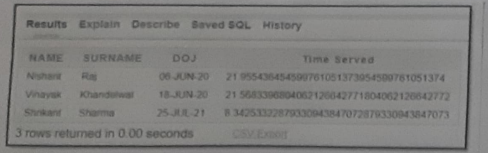
Query 24.5



Query 25.1



Query 25.2



Query 25.3

Date

Expt. No.

Page No. 25

Query 24.4 → Insert new row with NULL email value (more than one NULL)

Insert into Intern (ID, Name, Age, Salary, Email)
Values (6, 'Nikhil', 18, 70000, Null);

Query 24.5 → Insert row with NULL Salary.

Insert into Intern (ID, Name, Age, Email, Salary)
Values (6, 'Nikhil', 19, 'Nikil@gmail.com', Null);

Query 25.1 → Add a new column.

Alter table XYZ
Add column DOJ date.

Query 25.2 → Insert data into newly added column.

Set DOJ = '06-Jun-20'
where ID = 1

Query 25.3 → Fetch data.

Select Name, Surname, DOJ, Months_Between(Sysdate, DOJ) as 'Time Served'
From XYZ
where ID in (1, 2, 3)

Teacher's Signature

Results Explain Describe Saved SQL History

Maximum
70000

1 rows returned in 0.01 seconds CSV Export

Query 26.1

Results Explain Describe Saved SQL History

Minimum
30000

1 rows returned in 0.00 seconds CSV Export

Query 26.2

Results Explain Describe Saved SQL History

Sum
450000

1 rows returned in 0.00 seconds CSV Export

Query 26.3

Results Explain Describe Saved SQL History

Average
50000

1 rows returned in 0.00 seconds CSV Export

Query 26.4

Results Explain Describe Saved SQL History

Maximum	Minimum	Sum	Average
70000	30000	450000	50000

1 rows returned in 0.00 seconds CSV Export

Query 26.5

Results Explain Describe Saved SQL History

COUNT(*)
10

1 rows returned in 0.00 seconds CSV Export

Query 26.6

Results Explain Describe Saved SQL History

COUNT(EMP_ID)
10

1 rows returned in 0.00 seconds CSV Export

Query 26.7

Date 4/4/22

Expt. No. _____ Page No. 26

Query 26.1 → Query to demonstrate max function

```
Select MAX(Emp_Salary) as 'Maximum' from Employee.
```

Query 26.2 → Query to demonstrate min function

```
Select MIN(Emp_Salary) as 'Minimum' from Employee.
```

Query 26.3 → Query to demonstrate sum function

```
Select SUM(Emp_Salary) as "Sum" from Employee.
```

Query 26.4 → Query to demonstrate avg function

```
Select AVG(Emp_Salary) as 'Average' from Employee.
```

Query 26.5 → Compiled query for max, min, sum, average function.

```
Select MAX(Emp_Salary) as 'Maximum', MIN(Emp_Salary) as 'Minimum',
SUM(Emp_Salary) as 'Sum', AVG(Emp_Salary) as 'Average'
from Employee.
```

Query 26.6 → Query to demonstrate count function

```
Select count(*) from Employee.
```

Query 26.7 → Query for Count function (V2).

```
Select Count(Emp_ID) from Employee.
```

Teacher's Signature

Results Explain Describe Saved SQL History

Actual Average
45000

1 rows returned in 0.02 seconds CSV Export

Query 26.8

Results Explain Describe Saved SQL History

Total Average Salary
93833.333333333333333333333333333333333

1 rows returned in 0.02 seconds CSV Export

Query 26.9

Results Explain Describe Saved SQL History

No. Of Departments
3

1 rows returned in 0.00 seconds CSV Export

Query 26.10

Results Explain Describe Saved SQL History

Salary Of Each Deperments
180000
130000
140000

3 rows returned in 0.03 seconds CSV Export

Query 26.11

Results Explain Describe Saved SQL History

Maximum	Minimum	Sum	Average
70000	50000	180000	60000
60000	30000	130000	43333.333333333333333333333333333333333
70000	30000	140000	46666.666666666666666666666666666666667

3 rows returned in 0.02 seconds CSV Export

Query 26.12.

Date

Expt. No. Page No. 27

Query 26.8 → Query to demonstrate NULL value function.

Select AVG(NVL(Emp_Salary, 0)) as 'Actual Average' from Employee.

Query 26.9 → Query of NULL value function (V2)

Select AVG(Salary + NVL(Bonus, 0)) as 'Total Average Salary' from Salary;

Query 26.10 → Query to demonstrate count function with Distinct

Select Count (Distinct (Department)) as 'No. of Departments' from Employee

Query 26.11 → Query to demonstrate grouping.

Select Sum (Emp_Salary) as 'Salary of each departments' from Employee
Group by Department.

Query 26.12 → Query to demonstrate grouping (V2).

Select Max (Emp_Salary) as 'Maximum', Min (Emp_Salary) as 'Minimum',
Sum(Emp_Salary) as 'Sum', AVG(Emp_Salary) as 'Average'
from Employee
Group by Department.

Teacher's Signature

Results | Explain | Describe | Saved SQL | History

Avarage Salary
180000

1 rows returned in 0.01 seconds CSV Export

Query 27.1

Results | Explain | Describe | Saved SQL | History

Avarage Salary
155000
140000

2 rows returned in 0.00 seconds CSV Export

Query 27.2

Results | Explain | Describe | Saved SQL | History

DEPARTMENT	DEPTNO	Total Salary
HR	100	40000
Sales	100	70000
HR	200	60000
HR	300	55000
Sales	200	70000
IT	100	120000
IT	200	60000

7 rows returned in 0.00 seconds CSV Export

Query 27.3

Results | Explain | Describe | Saved SQL | History

DEPARTMENT	DEPTNO	Total Salary
HR	300	55000

1 rows returned in 0.00 seconds CSV Export

Query 27.4

Results | Explain | Describe | Saved SQL | History

DEPARTMENT	DEPTNO	Total Salary
HR	300	55000
HR	200	60000
IT	200	60000
Sales	200	70000
HR	100	40000
IT	100	120000
Sales	100	70000

7 rows returned in 0.01 seconds CSV Export

Query 27.5

Date 23/05/22

Expt. No. _____ Page No. 28

Query 27.1 → Grouping with using 'Having'

```
Select Sum(Emp_Salary)as 'Avarage Salary' From Employee
Group by Department
Having Department = 'IT'
```

Query 27.2 → Grouping with using 'Not Having'

```
Select Sum(Emp_Salary)as 'Avarage Salary' From Employee
Group by Department
Having Not Department = 'IT'
```

Query 27.3 → Grouping using multiple rows

```
Select Department, DeptNo, Sum(Emp_Salary) as 'Total Salary' From Employee
Group by DeptNo, Department
```

Query 27.4 → Grouping using multiple row including 'Having'

```
Select Department, DeptNo, Sum(Emp_Salary) as 'Total Salary' From Employee
Group by DeptNo, Department
Having DeptNo = 300
```

Query 27.5 → Grouping using multiple row V2

```
Select Department, DeptNo, Sum(Emp_Salary) as 'Total Salary' From Employee
Group by DeptNo, Department
Order by DeptNo DESC
```

Teacher's Signature _____

Results Explain Describe Saved SQL History

DEPARTMENT	DEPTNO	Total HR Salary
Sales	200	70000
IT	200	60000

2 rows returned in 0.00 seconds CSV Export

Query 27.6

Results Explain Describe Saved SQL History

Table created.

0.13 seconds

Query 28.1

Results Explain Describe Saved SQL History

Table created.

0.13 seconds

Query 28.2

Results Explain Describe Saved SQL History

Table created.

0.13 seconds

Query 28.3

Date

Expt. No.

Page No. 29

Query 27.6 → Grouping using multiple row with both 'Having' and 'where' clause

```
Select Department, DeptNo, Sum (Emp_Salary) as 'Total salary' from
  Employee
where Department in ('IT', 'Sales')
(group by DeptNo, Department.
Having DeptNo in (200,300)
```

Query 28.1 → Create a table TCS Country

```
Create table TCS_Country (
   C_ID number(5) Constraint CPK Primary Key,
   C_Name varchar(20),)
```

Query 28.2 → Create a table TCS Location.

```
Create table TCS_Location.
( Loc_ID number(5),
  C_ID number(5),
  Constraint LPK Primary Key (Loc_ID),
  constraint C_ID fk_TCS Loc Foreign Key (C_ID) references
    TCS_Country (C_ID));
```

Query 28.3 → Create a table TCS Department.

```
Create table TCS_Department
( DeptID number(5),
  Dept_Name varchar(30),
  LOC_ID number(5),
```

Teacher's Signature

Results Explain Describe Saved SQL History

Table created.

0.13 seconds

Query 28.4

Results Explain Describe Saved SQL History

C_ID	COUNTRY
900	India
901	Thailand
902	Pakistan
903	Russia

4 rows returned in 0.04 seconds CSV Export

Query 29.1

Results Explain Describe Saved SQL History

LOC_ID	LANE	CITY	C_ID
800	10	Jaipur	900
801	20	Panji	900
802	21	Bangkok	901
803	250	Kasol	900
804	280	Karachi	902
805	500	Moscow	903
806	781	Phuket	901

7 rows returned in 0.01 seconds CSV Export

Query 29.2

Results Explain Describe Saved SQL History

DEPT_ID	DEPT_NAME	LOC_ID
100	HR	800
101	IT	802
102	ANALYST	801
103	MARKETING	806
104	SALES	804
105	ACCOUNTS	805

6 rows returned in 0.01 seconds CSV Export

Query 29.3

Date

Expt. No. Page No. 36

constraint DPK Primary key (Dept_ID),
constraint Loc_ID_FK_Tcs_Dept foreign key (Loc_ID) References
Tcs_Location (LOC_ID))

Query 28.4 → Create a table TCS Employee

Create table TCS_Employee
(Emp_ID number(5),
Emp_Name varchar(30),
Emp_Age number(3),
Emp_Salary number(10),
Dept_ID number(3),
constraint EPK Primary key (Emp_ID),
constraint Dept_ID_FK_TCS_Emp Foreign Key (Dept_ID) Reference
TCS_Department (Dept_ID))

Query 29.1 → Fetch TCS country table

Select * from TCS_Country

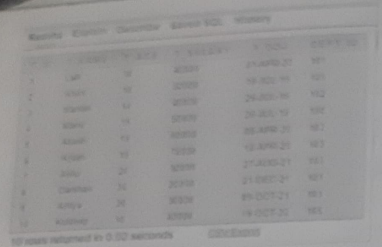
Query 29.2 → Fetch TCS location table

Select * from TCS_Location

Query 29.3 → Fetch TCS department table

Select * from TCS_Department.

Teacher's Signature



Query 29.4

Results Explain Describe Saved SQL History

Table altered.

0.33 seconds

Query 30 & 31

Date

Expt. No.

Page No. 21

Query 29.4 → Fetch TCS Employee table

Select * from TCS_Employee

Query 30 → Add constraint at column level. (TCS_Location)

Alter table TCS_Location
Add constraint C_ID_fk_TCS_Loc Foreign Key (C_ID) references
TCS_Country(C_ID)

Query 31 → Add constraint at column level (TCS_Department)

Alter table TCS_Department
Add constraint Loc_ID_fk_TCS_Dpt Foreignkey (Loc_ID) references
TCS_Location (Loc_ID)

Teacher's Signature

Results Explain Describe Saved SQL History

T_NAME	T_SALARY	DEPT_NAME
Lalit	40000	IT
Ishan	50000	IT
Manish	40000	Analyst
Manu	50000	HR
Akash	60000	Analyst
Ayush	70000	Marketing
Ashu	30000	Marketing
Darshan	20000	IT
Aditya	30000	IT
Kuldeep	40000	Account

10 rows returned in 0.01 seconds CSV Export

Query 32.1

Results Explain Describe Saved SQL History

T_NAME	T_SALARY	DEPT_NAME
Aditya	30000	IT
Akash	60000	Analyst
Ashu	30000	Marketing
Ayush	70000	Marketing
Darshan	20000	IT
Ishan	50000	IT
Kuldeep	40000	Account
Lalit	40000	IT
Manish	40000	Analyst
Manu	50000	HR

10 rows returned in 0.00 seconds CSV Export

Query 32.2

Results Explain Describe Saved SQL History

T_NAME	T_SALARY	DEPT_NAME
Lalit	40000	IT
Ishan	50000	IT
Darshan	20000	IT
Aditya	30000	IT

4 rows returned in 0.02 seconds CSV Export

Query 32.3

Results Explain Describe Saved SQL History

T_NAME	T_AGE	T_SALARY	DEPT_ID	DEPT_NAME	LOC_ID
Lalit	18	40000	101	HR	800
Ishan	18	50000	101	HR	800
Manish	18	40000	102	HR	800
Manu	19	50000	100	HR	800
Akash	19	60000	102	HR	800
Ayush	19	70000	103	HR	800
Ashu	20	30000	103	HR	800
Darshan	20	20000	101	HR	800
Aditya	20	30000	101	HR	800
Kuldeep	18	40000	105	HR	800
Lalit	18	40000	101	IT	802
Ishan	18	50000	101	IT	802
Manish	18	40000	102	IT	802
Manu	19	50000	100	IT	802
Akash	19	60000	102	IT	802
Ayush	19	70000	103	IT	802
Ashu	20	30000	103	IT	802
Darshan	20	20000	101	IT	802
Aditya	20	30000	101	IT	802
Kuldeep	18	40000	105	IT	802
Lalit	18	40000	101	Analyst	801
Ishan	18	50000	101	Analyst	801
Manish	18	40000	102	Analyst	801
Manu	19	50000	100	Analyst	801
Akash	19	60000	102	Analyst	801
Ayush	19	70000	103	Analyst	801
Ashu	20	30000	103	Analyst	801
Darshan	20	20000	101	Analyst	801
Aditya	20	30000	101	Analyst	801
Kuldeep	18	40000	105	Analyst	801
Lalit	18	40000	101	Marketing	806
Ishan	18	50000	101	Marketing	806
Manish	18	40000	102	Marketing	806
Manu	19	50000	100	Marketing	806
Akash	19	60000	102	Marketing	806
Ayush	19	70000	103	Marketing	806
Ashu	20	30000	103	Marketing	806
Darshan	20	20000	101	Marketing	806
Aditya	20	30000	101	Marketing	806
Kuldeep	18	40000	105	Marketing	806
Lalit	18	40000	101	Sales	804
Ishan	18	50000	101	Sales	804
Manish	18	40000	102	Sales	804
Manu	19	50000	100	Sales	804
Akash	19	60000	102	Sales	804
Ayush	19	70000	103	Sales	804
Ashu	20	30000	103	Sales	804
Darshan	20	20000	101	Sales	804
Aditya	20	30000	101	Sales	804
Kuldeep	18	40000	105	Sales	804
Lalit	18	40000	101	Account	805
Ishan	18	50000	101	Account	805
Manish	18	40000	102	Account	805
Manu	19	50000	100	Account	805
Akash	19	60000	102	Account	805
Ayush	19	70000	103	Account	805
Ashu	20	30000	103	Account	805
Darshan	20	20000	101	Account	805
Aditya	20	30000	101	Account	805
Kuldeep	18	40000	105	Account	805

50 rows returned in 0.02 seconds CSV Export

Query 33

Date 6/6/22

Expt. No. _____ Page No. 32

Query 32.1 ⇒ Equivi join query

```
Select T_Name, T_salary, Dept_Name From TCS_Employee te, TCS_Department td
Where te.Dept_ID = td.Dept_ID;
```

Query 32.2 ⇒ Equivi join query (sorted)

```
Select T_Name, T_Salary, Dept_Name From TCS_Employee te, TCS_Department td
Where te.Dept_ID = td.Dept_ID;
Order by T_Name
```

Query 32.3 ⇒ Equivi join query (ind. constraint Dept = IT)

```
Select T_Name, T_Salary, Dept_Name From TCS_Employee te, TCS_Department td
Where te.Dept_ID = td.Dept_ID
And Dept_Name = 'IT'
```

Query 33 ⇒ Cross join query

```
Select te.T_Name, te.T_Age, te.Dept_ID, td.Dept_Name, td.Loc_ID
From TCS_Employee te, TCS_Department td
```

Teacher's Signature _____

Results Explain Describe Saved SQL History

T_NAME	LOC_CITY
Lalit	Bangkok
Ishan	Bangkok
Darshan	Bangkok
Aditya	Bangkok

4 rows returned in 0.00 seconds CSV Export

Query 34.1

Results Explain Describe Saved SQL History

T_NAME	LOC_CITY
Ishan	Bangkok
Lalit	Bangkok

2 rows returned in 0.02 seconds CSV Export

Query 34.2

Results Explain Describe Saved SQL History

T_NAME	LOC_CITY	C_NAME
Kuldeep	Moscow	Russia

1 rows returned in 0.00 seconds CSV Export

Query 35

Results Explain Describe Saved SQL History

LOC_CITY	C_NAME
Jaipur	India
Panji	India
Kasol	India

3 rows returned in 0.00 seconds CSV Export

Query 36

Date

Expt. No. Page No. 33

Query 34.1 ⇒ Fetch columns from first and third tables.

Select T_Name, Loc_City From TCS_Employee te, TCS_Department td, TCS_Location tl
Where te.Dept_ID = td.Dept_ID and td.Loc_ID = tl.Loc_ID and Loc_city = 'Bangkok'.

Query 34.2 ⇒ Fetch columns from first and third table (with condition)

Select T_Name, Loc_city From TCS_Employee te, TCS_Department td, TCS_Location tl.
Where te.Dept_ID = td.Dept_ID and td.Loc_ID = tl.Loc_ID and Loc_City = 'Bangkok' and T_Salary > 30000
Order by T_Name.

Query 35 ⇒ Fetch data from first, third and forth table

Select T_Name, Loc_city, C_Name from TCS_Employee te, TCS_Department td, TCS_Location tl, TCS_Country tc.
Where te.Dept_ID = td.Dept_ID and td.Loc_ID = tl.Loc_ID and tl.C_ID = tc.C_ID
and C_Name = 'Russia'.
Order by T_Name.

Query 36 ⇒ Fetch data from third and forth table.

Select Loc_City, C_Name From TCS_Location tl, TCS_Country tc
Where tl.C_ID = tc.C_ID and C_Name = 'India'.

Teacher's Signature

Results Explain Describe Saved SQL History

T_NAME	DEPT_NAME
Lalit	IT
Ishan	IT
Manish	Analyst
Manu	HR
Akash	Analyst
Ayush	Marketing
Ashu	Marketing
Darshan	IT
Aditya	IT
Kuldeep	Account
Rudram	

11 rows returned in 0.00 seconds CSV Export

Query 37

Results Explain Describe Saved SQL History

T_NAME	DEPT_NAME
Lalit	IT
Ishan	IT
Manish	Analyst
Manu	HR
Akash	Analyst
Ayush	Marketing
Ashu	Marketing
Darshan	IT
Aditya	IT
Kuldeep	Account
	Sales

11 rows returned in 0.00 seconds CSV Export

Query 38

Results Explain Describe Saved SQL History

T_NAME	DEPT_NAME
Lalit	IT
Ishan	IT
Manish	Analyst
Manu	HR
Akash	Analyst
Ayush	Marketing
Ashu	Marketing
Darshan	IT
Aditya	IT
Kuldeep	Account
Rudram	
	Sales

12 rows returned in 0.00 seconds CSV Export

Query 39

Results Explain Describe Saved SQL History

Employee	Manager
Lalit	Darshan
Ishan	Darshan
Manish	Darshan
Manu	Kuldeep
Akash	Kuldeep
Ashu	Aditya
Darshan	Kuldeep
Aditya	Manish
Kuldeep	Ayush
Rudram	Darshan

10 rows returned in 0.00 seconds CSV Export

Query 40.1

Date

Expt. No. Page No. 24

Query 37 → Left outer join query.

```
Select T_Name, Dept_Name, From TCS_Employee te, TCS_Department td
Where te.Dept_ID = td.Dept_ID (+)
```

Query 38 → Right outer join query

```
Select T_Name, Dept_Name, from TCS_Employee te, TCS_Department td
Where te.Dept_ID (+) = td.Dept_ID
```

Query 39 → Full outer join query

```
Select T_Name, Dept_Name from TCS_Employee te, TCS_Department td
on TCS_Employee.Dept_ID = TCS_Department.Dept_ID
```

Query 40.1 → Self join query.

```
Select te.T_Name as "Employee", tm.T_Name as "Manager" from TCS_Employee
te, TCS_Employee tm
Where te.M_ID = tm.T_ID.
```

Teacher's Signature

Results Explain Describe Saved SQL History

Employee	Manager
Lalit	Darshan
Ishan	Darshan
Manish	Darshan
Manu	Kuldeep
Akash	Kuldeep
Ayush	
Ashu	Aditya
Darshan	Kuldeep
Aditya	Manish
Kuldeep	Ayush
Rudram	Darshan

11 rows returned in 0.00 seconds CSV Export

Query 40.2

Results Explain Describe Saved SQL History

Employee	Manager
Lalit	Darshan
Ishan	Darshan
Manish	Darshan
Rudram	Darshan

4 rows returned in 0.00 seconds CSV Export

Query 40.3.

Results Explain Describe Saved SQL History

T_NAME	GRADE
Ishan	A
Manu	A
Akash	A
Ayush	A
Rudram	A
Lalit	B
Manish	B
Ashu	B
Aditya	B
Kuldeep	B
Darshan	C

11 rows returned in 0.02 seconds CSV Export

Query 41.1

Results Explain Describe Saved SQL History

T_NAME	GRADE
Ishan	A
Manu	A
Akash	A
Ayush	A
Rudram	A

5 rows returned in 0.02 seconds CSV Export

Query 41.2

Results Explain Describe Saved SQL History

T_NAME
Ishan
Manu
Akash
Ayush
Rudram

5 rows returned in 0.01 seconds CSV Export

Query 42.1

Date 13/6/22

Expt. No. _____ Page No. 35

Query 40.2 → Self join query (ver. 2)

```
Select te.T_Name as "Employee", tm.T_Name as "Manager" from TCS_Employee te,
TCS_Employee tm
where te.M_ID = tm.T_ID(+).
```

Query 40.3 → Self join query (ver. 3).

```
Select te.T_Name as "Employee", tm.T_Name as "Manager" from TCS_Employee
te, TCS_Employee tm
where te.M_ID = tm.T_ID(+)
and tm.T_Name = 'Darshan'
```

Query 41.1 → Non-equivi join query

```
Select te.T_Name, g.Grade from TCS_Employee te, Grades g
where te.T_Salary between g.Low and g.High.
```

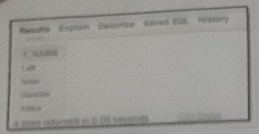
Query 41.2 → Non-equivi join query (ver. 2)

```
Select te.T_Name, g.Grade from TCS_Employee te, Grades g
where te.T_salary between g.Low and g.High
and g.Grade = 'A'
```

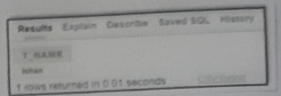
Query 42.1 → Simple subquery demonstration.

```
Select T_Name from TCS_Employee
where T_Salary > (Select T_salary from
TCS_Employee where T_Name = 'Kuldeep')
```

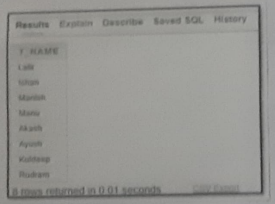
Teacher's Signature _____



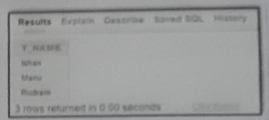
Query 42.2



Query 42.3



Query 42.4



Query 42.5

Date 13/6/22

Expt. No. _____ Page No. 36

Query 42.2 → Subquery demonstration (ver. 2)

```
Select T_Name from TCS_Employee
where Dept_ID = (select Dept_ID from TCS_Employee where
T_Name = 'Aditya')
```

Query 42.3 → Subquery demonstration (ver. 3)

```
Select T_Name from TCS_Employee where Dept_ID = (select Dept_ID
from TCS_Employee where T_Name = 'Aditya') and
T_Salary > (select T_Salary from TCS_Employee where T_Name
= 'Kuldeep')
```

Query 42.4 → Subquery demonstration (ver. 4).

```
Select T_Name from TCS_Employee where T_Salary > (select AVG(T_Salary)
from TCS_Employee where Dept_ID = (select Dept_ID from TCS_Departme
where Dept_Name = 'IT'))
```

Query 42.5 → Subquery demonstration (ver. 5).

```
Select T_Name from TCS_Employee where T_Salary = (select AVG(T_Salary) fr
TCS_Employee where Dept_ID = (select Dept_ID from TCS_Departmen
where Dept_Name = 'Marketing'))
```

good !!