ANIKET CHAKRABORTY CASE STUDY-2 ANSWERS

Simple Queries Section

Query – 1:

Question-1: List all the employee details
SELECT * FROM Employee;

Answer – 1:

	Employee_Id	Last_Name	First_Name	Middle_Name	Job_ld	Hire_Date	Salary	Comm	Department_Id
1	755	Doyle	Jean	K	671	04-Apr-85	2850.00	NULL	30
2	756	Dennis	Lynn	S	671	15-May-85	2750.00	NULL	30
3	757	Baker	Leslie	D	671	10-Jun-85	2200.00	NULL	40
4	7369	Smith	John	Q	667	17-Dec-84	800.00	NULL	20
5	7499	Allen	Kevin	J	670	20-Feb-85	1600.00	300	30
6	7521	Wark	Cynthia	D	670	22-Feb-85	1250.00	50	30

Query – 2:

Question-2: List all the department details SELECT * FROM Department;

Answer -2:

	Department_ld	Name	Location_ld
1	10	Accounting	122
2	20	Sales	124
3	30	Research	123
4	40	Operations	167

Query – 3:

Question-3: List all job details
SELECT * FROM Job;

Answer -3:

	Job_ld	Designation
1	667	Clerk
2	668	Staff
3	669	Analyst
4	670	Sales Person
5	671	Manager
6	672	President

Query – 4:

Question-4: List all the locations SELECT * FROM Location;

Answer - 4:

	Location_ld	City
1	122	New York
2	123	Dallas
3	124	Chicago
4	167	Boston

Query – 5:

```
Question-5: List out the First Name, Last Name, Salary, Commission
for all Employees.
SELECT
First_Name, Last_Name, Salary, Comm
FROM Employee;
```

Answer – 5:

	First_Name	Last_Name	Salary	Comm
1	Jean	Doyle	2850.00	NULL
2	Lynn	Dennis	2750.00	NULL
3	Leslie	Baker	2200.00	NULL
4	John	Smith	800.00	NULL
5	Kevin	Allen	1600.00	300
6	Cynthia	Wark	1250.00	50

Query – 6:

```
Question-6: List out the Employee ID, Last Name, Department ID for all employees and alias Employee ID as "ID of the Employee", Last Name as "Name of the Employee", Department ID as "Dep_id".

SELECT

Employee_Id AS [ID of the Employee],

Last_Name AS [Name of the Employee],

Department_Id AS Dep_id

FROM Employee;
```

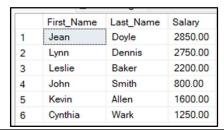
Answer – 6:

	ID of the Employee	Name of the Employee	Dep_id
1	755	Doyle	30
2	756	Dennis	30
3	757	Baker	40
4	7369	Smith	20
5	7499	Allen	30
6	7521	Wark	30

Query – 7:

```
Question-7: List out the annual salary of the employees with their names
only
SELECT
First_Name, Last_Name, Salary
FROM Employee;
```

Answer – 7:



Where Clause Section:

Query – 1:

```
Question-1: List the details about "Smith"
SELECT
    E.Employee_Id, E.First_Name, E.Last_Name, E.Job_Id, E.Hire_Date, E.Salary, E.Comm,
    J.Designation, D.Department_Id, D.Name,
    L.Location_Id, L.City
FROM Employee E
FULL JOIN Job J ON E.Job_Id = J.Job_Id
FULL JOIN Department D ON E.Department_Id = D.Department_Id
FULL JOIN Location L ON D.Location_Id = L.Location_Id
WHERE E.Last_Name = 'Smith';
```

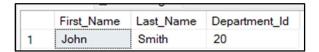
Answer – 1:

	_											_
	Employee_Id	First_Name	Last_Name	Job_ld	Hire_Date	Salary	Comm	Designation	Department_ld	Name	Location_ld	City
1	7369	John	Smith	667	17-Dec-84	800.00	NULL	Clerk	20	Sales	124	Chicago

Query -2:

```
Question-2: List out the employees who are working in department 20
SELECT
    E.First_Name, E.Last_Name, E.Department_Id
FROM Employee E
WHERE E.Department_Id = 20;
```

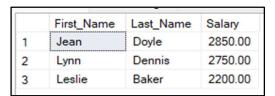
Answer – 2:



Query – 3:

```
Question-3: List out the employees who are earning salary between 2000 and 3000 SELECT
First_Name, Last_Name, Salary
FROM Employee
WHERE Salary BETWEEN 2000 AND 3000;
```

Answer – 3:



Query – 4:

```
Question-4: List out the employees who are working in department 10 or 20
SELECT
    First_Name, Last_Name, Department_Id
FROM Employee
WHERE Department_Id = 10 OR Department_Id = 20;
```

Answer – 4:

	First_Name	Last_Name	Department_Id
1	John	Smith	20

Query - 5:

```
Question-5: Find out the employees who are not working in department 10 or 30 SELECT
First_Name, Last_Name, Department_Id
FROM Employee
WHERE Department_Id NOT IN (10,30);
```

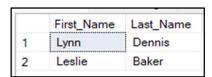
Answer – 5:

	First_Name	Last_Name	Department_Id
1	Leslie	Baker	40
2	John	Smith	20

Query – 6:

```
Question-6: List out the employees whose name starts with 'L'
SELECT
First_Name, Last_Name
FROM Employee
WHERE First_Name LIKE 'L%';
```

Answer – 6:



Query – 7:

```
Question-7: List out the employees whose name starts with 'L' and ends with 'E'

SELECT

First_Name, Last_Name

FROM Employee

WHERE First_Name LIKE 'L%KE';
```

Answer – 7:



Query – 8:

```
Question-8: List out the employees whose name length is 4 and start with 'J'

SELECT

First_Name, Last_Name

FROM Employee

WHERE First_Name LIKE 'J%' AND LEN(First_Name) = 4;
```

Answer – 8:

	First_Name	Last_Name
1	Jean	Doyle
2	John	Smith

Query – 9:

```
Question-9: List out the employees who are working in department 30 and draw the salaries more than 2500.

SELECT

First_Name, Last_Name, Salary, Department_Id

FROM Employee

WHERE Department_Id = 30 AND Salary > 2500;
```

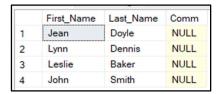
Answer – 9:

			_	
	First_Name	Last_Name	Salary	Department_Id
1	Jean	Doyle	2850.00	30
2	Lynn	Dennis	2750.00	30

Query - 10:

```
Question-10: List out the employees who are not receiving commission SELECT
First_Name, Last_Name, Comm
FROM Employee
WHERE Comm IS NULL;
```

Answer – 10:



Order By Clause section:

Query – 1:

```
Question-1: List out the Employee ID and Last Name in ascending order based on the Employee ID.

SELECT

Employee_Id, Last_Name
FROM Employee
ORDER BY Employee_Id;
```

Answer – 1:

-	_	,
	Employee_Id	Last_Name
1	755	Doyle
2	756	Dennis
3	757	Baker
4	7369	Smith
5	7499	Allen
6	7521	Wark

Query – 2:

```
Question-2: List out the Employee ID and Name in descending order based on salary.

SELECT
First_Name, Last_Name, Employee_Id, Salary
FROM Employee
ORDER BY Salary DESC;
```

Answer -2:

	First_Name	Last_Name	Employee_Id	Salary
1	Jean	Doyle	755	2850.00
2	Lynn	Dennis	756	2750.00
3	Leslie	Baker	757	2200.00
4	Kevin	Allen	7499	1600.00
5	Cynthia	Wark	7521	1250.00
6	John	Smith	7369	800.00

Query – 3:

```
Question-3: List out the employee details according to their Last Name in ascending-order.

SELECT
First_Name, Last_Name, Employee_Id, Salary

FROM Employee

ORDER BY Last_Name;
```

Answer – 3:

	First_Name	Last_Name	Employee_ld	Salary
1	Kevin	Allen	7499	1600.00
2	Leslie	Baker	757	2200.00
3	Lynn	Dennis	756	2750.00
4	Jean	Doyle	755	2850.00
5	John	Smith	7369	800.00
6	Cynthia	Wark	7521	1250.00

Query – 4:

```
Question-4: List out the employee details according to their Last Name in ascending order and then Department ID in descending order.

SELECT
First_Name, Last_Name, Employee_Id, Department_Id

FROM Employee

ORDER BY Last_Name, Department_Id DESC;
```

Answer – 4:

	First_Name	Last_Name	Employee_Id	Department_Id
1	Kevin	Allen	7499	30
2	Leslie	Baker	757	40
3	Lynn	Dennis	756	30
4	Jean	Doyle	755	30
5	John	Smith	7369	20
6	Cynthia	Wark	7521	30

Group By & Having Clause Section:

Query – 1:

```
Question-1: List out the department wise maximum salary, minimum salary
and average salary of the employees.
SELECT
    D.Department_Id, D.Name,
    MAX(E.Salary) AS MaxSalary,
    MIN(E.Salary) AS MinSalary,
    AVG(E.Salary) AS AvgSalary
FROM Department D LEFT JOIN Employee E
ON D.Department_Id = E.Department_Id
GROUP BY D.Department_Id, D.Name;
```

Answer – 1:

	Department_ld	Name	MaxSalary	MinSalary	AvgSalary
1	10	Accounting	NULL	NULL	NULL
2	20	Sales	800.00	800.00	800.00
3	30	Research	2850.00	1250.00	2112.50
4	40	Operations	2200.00	2200.00	2200.00

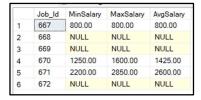
Query – 2:

```
Question-2: List out the job wise maximum salary, minimum salary and average salary of the employees.

SELECT
J.Job_Id,
MIN(Salary) AS MinSalary,
MAX(Salary) AS MaxSalary,
AVG(Salary) AS AvgSalary

FROM Employee E RIGHT JOIN Job J
ON E.Job_Id = J.Job_Id
GROUP BY J.Job_Id;
```

Answer – 2:



Query – 3:

```
Question-3: List out the number of employees who joined each month in ascending order.

SELECT

MONTH(CAST(Hire_Date AS DATE)) AS JoinMonth,
DATENAME(MONTH,CAST(Hire_Date AS DATE)) AS MonthName,
COUNT(*) AS EmpCount
FROM Employee
GROUP BY MONTH(CAST(Hire_Date AS DATE)), DATENAME(MONTH,CAST(Hire_Date AS DATE))
ORDER BY JoinMonth ASC;
```

Answer -3:

	JoinMonth	MonthName	EmpCount
1	2	February	2
2	4	April	1
3	5	May	1
4	6	June	1
5	12	December	1

Query – 4:

```
Question-4: List out the number of employees for each month and year in ascending order based on the year and month.

SELECT

MONTH(CAST(Hire_Date AS DATE)) AS JoinMonth,

YEAR(CAST(Hire_Date AS DATE)) AS JoinYear,

DATENAME(MONTH,CAST(Hire_Date AS DATE)) AS MonthName,

COUNT(*) AS EmpCount

FROM Employee

GROUP BY MONTH(CAST(Hire_Date AS DATE)), DATENAME(MONTH,CAST(Hire_Date AS DATE)),

YEAR(CAST(Hire_Date AS DATE))

ORDER BY JoinMonth ASC, JoinYear ASC;
```

Answer – 4:

	JoinMonth	JoinYear	MonthName	EmpCount
1	2	1985	February	2
2	4	1985	April	1
3	5	1985	May	1
4	6	1985	June	1
5	12	1984	December	1

Query - 5:

```
Question-5: List out the Department ID having at least four employees
SELECT
    Department_Id ,COUNT(*) AS EmpCount
FROM Employee
GROUP BY Department_Id
HAVING COUNT(*) >= 4;
```

Answer – 5:



Query – 6:

Answer – 6:

	FebEmpCount
1	2

Query - 7:

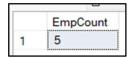
```
Question-7: How many employees joined in May or June month.
SELECT
    First_Name, Last_Name, COUNT(*) AS [May-JuneEmpCount]
FROM Employee
GROUP BY First_Name, Last_Name, MONTH(CAST(Hire_Date AS DATE))
HAVING MONTH(CAST(Hire_Date AS DATE)) = 5 OR MONTH(CAST(Hire_Date AS DATE)) = 6;
```

Answer -7:

	First_Name	Last_Name	May-JuneEmpCount	
1	Leslie	Baker	1	
2	Lynn	Dennis	1	

Query – 8:

Answer – 8:



Query – 9:

Answer -9:

	EmpCount	JoinMonthName
1	1	April
2	2	February
3	1	June
4	1	May

Query - 10:

```
Question-10: How many employees were joined in April 1985?
SELECT
    COUNT(*) AS AprilEmpCount
FROM Employee
WHERE YEAR(CAST(Hire_Date AS DATE)) = 1985
    AND MONTH(CAST(Hire_Date AS DATE)) = 4;
```

Answer – 10:

	AprilEmpCount
1	1

Query – 11:

```
Question-11: Find the Department ID having greater than or equal to
3 employees joining in April 1985?
SELECT
    Department_Id, COUNT(*) AS EmpCount
FROM Employee
WHERE YEAR(CAST(Hire_Date AS DATE)) = 1985
    AND MONTH(CAST(Hire_Date AS DATE)) = 4
GROUP BY Department_Id
HAVING COUNT(*) >= 3;
```

Answer – 11:



Joins Clause/Operator Section:

Query – 1:

```
Question-1: List out employees with their department names
SELECT
    E.First_Name, E.Last_Name, E.Department_Id, D.Name
FROM Employee E JOIN Department D
ON E.Department_Id = D.Department_Id
ORDER BY Department_Id;
```

Answer – 1:

	First_Name	Last_Name	Department_ld	Name
1	John	Smith	20	Sales
2	Kevin	Allen	30	Research
3	Cynthia	Wark	30	Research
4	Jean	Doyle	30	Research
5	Lynn	Dennis	30	Research
6	Leslie	Baker	40	Operations

Query – 2:

```
Question-2: Display employees with their designations
SELECT
    E.First_Name, E.Last_Name, E.Job_Id, J.Designation
FROM Employee E JOIN Job J
ON E.Job_Id = J.Job_Id
ORDER BY Job_Id;
```

Answer -2:

	First_Name	Last_Name	Job_ld	Designation
1	John	Smith	667	Clerk
2	Kevin	Allen	670	Sales Person
3	Cynthia	Wark	670	Sales Person
4	Jean	Doyle	671	Manager
5	Lynn	Dennis	671	Manager
6	Leslie	Baker	671	Manager

Query – 3:

```
Question-3: Display the employees with their department names and city
SELECT
    E.First_Name, E.Last_Name, D.Name, L.City
FROM Employee E
JOIN Department D ON E.Department_Id = D.Department_Id
JOIN Location L ON L.Location_Id = D.Location_Id;
```

Answer – 3:



Query – 4:

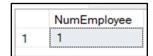
```
Question-4: How many employees are working in different departments?
Display with department names.
SELECT
    D.Name, D.Department_Id, COUNT(E.Employee_Id) AS NumEmployee
FROM Employee E JOIN Department D ON E.Department_Id = D.Department_Id
GROUP BY D.Name, D.Department_Id
ORDER BY NumEmployee:
```

Answer – 4:

	Name	Department_Id	NumEmployee
1	Sales	20	1
2	Operations	40	1
3	Research	30	4

Query – 5:

Answer – 5:



Query – 6:

```
Question-6: Which is the department having greater than or equal to 3
employees and display the department names in ascending order.

SELECT
    D.Name
FROM Department D JOIN Employee E ON D.Department_Id = E.Department_Id
GROUP BY D.Name
HAVING COUNT(E.Employee_Id) >= 3
ORDER BY D.Name ASC;
```

Answer – 6:



Query – 7:

Answer – 7:



Query – 8:

```
Question-8: Display all employees in sales or operation departments.

SELECT

E.Employee_Id, E.First_Name, E.Last_Name, D.Name

FROM Employee E

JOIN Department D ON E.Department_Id = D.Department_Id

WHERE D.Name = 'Sales' OR D.Name = 'Operations';
```

Answer – 8:

	Employee_ld	First_Name	Last_Name	Name
1	757	Leslie	Baker	Operations
2	7369	John	Smith	Sales

Conditional Statements Execution Section:

Query – 1:

```
Question-1: Display the employee details with salary grades. Use conditional statement to create a grade column.

SELECT Salary, Grade =

CASE

WHEN Salary < 1200 THEN 'C'

WHEN Salary BETWEEN 1201 AND 2300 THEN 'B'

ELSE 'A'

END

FROM Employee ORDER BY Grade;
```

Answer - 1:

	Salary	Grade
1	2850.00	Α
2	2750.00	Α
3	2200.00	В
4	1600.00	В
5	1250.00	В
6	800.00	С

Query – 2:

```
Question-2: List out the number of employees grade wise. Use
conditional statement to create a grade column.
SELECT
   CASE
       WHEN Salary < 1200 THEN 'C'
       WHEN Salary BETWEEN 1201 AND 2300 THEN 'B'
        ELSE 'A'
   END AS Grade,
COUNT(*) AS GradeWiseEmpCount
FROM Employee
GROUP BY
   CASE
        WHEN Salary < 1200 THEN 'C'
       WHEN Salary BETWEEN 1201 AND 2300 THEN 'B'
       ELSE 'A'
    END
ORDER BY Grade;
```

Answer – 2:

	Grade	GradeWiseEmpCount
1	Α	2
2	В	3
3	C	1

Query – 3:

```
Question-3: Display the employee salary grades and the number of employees between 2000 to 5000 range of salary.

SELECT

CASE

WHEN Salary < 1200 THEN 'C'

WHEN Salary BETWEEN 1201 AND 2300 THEN 'B'

ELSE 'A'

END AS Grade,

COUNT(*) AS Employee_Count

FROM Employee

WHERE Salary BETWEEN 2000 AND 5000

GROUP BY

CASE

WHEN Salary < 1200 THEN 'C'

WHEN Salary BETWEEN 1201 AND 2300 THEN 'B'

ELSE 'A'

END

ORDER BY Grade;
```

Answer -3:

	Grade	Employee_Count
1	Α	2
2	В	1

Sub-queries Section:

Query – 1:

```
Question-1: Display the employees list who got the maximum salary
SELECT
    First_Name, Last_Name, Employee_Id, Salary
FROM Employee
WHERE Salary =
(SELECT MAX(Salary) FROM Employee);
```

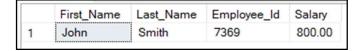
Answer - 1:



Query – 2:

```
Question-2: Display the employees who are working in the sales
department.
SELECT
    First_Name, Last_Name, Employee_Id, Salary
FROM Employee
WHERE Department_Id =
    (SELECT Department_Id FROM Department WHERE Name = 'Sales');
```

Answer -2:



Query – 3:

```
Question-3: Display the employees who are working as 'Clerk'.

SELECT

First_Name, Last_Name, Employee_Id

FROM Employee

WHERE Job_Id =

(SELECT Job_Id FROM Job WHERE Designation = 'Clerk');
```

Answer -3:

	_		
	First_Name	Last_Name	Employee_ld
1	John	Smith	7369

Query – 4:

```
Question-4: Display the list of employees who are living in
'Boston'.
SELECT
    First_Name, Last_Name, Employee_Id
FROM Employee
WHERE Department_Id IN
    (SELECT Department_Id FROM Department
    WHERE Location_Id IN
        (SELECT Location_Id
        FROM Location
        WHERE City = 'Boston'));
```

Answer – 4:

	First_Name	Last_Name	Employee_Id	
1	Leslie	Baker	757	

Query – 5:

Answer – 5:



Query – 6:

```
Question-6: Update the salaries of employees who are working as clerks on the basis of 10%.

BEGIN TRANSACTION

UPDATE Employee

SET Salary = 1.1 * Salary

WHERE Job_Id =

(SELECT Job_Id FROM Job WHERE Designation = 'Clerk');

SELECT * FROM Employee;

ROLLBACK TRANSACTION
```

Answer – 6:

	Employee_Id	Last_Name	First_Name	Middle_Name	Job_ld	Hire_Date	Salary	Comm	Department_Id
1	755	Doyle	Jean	K	671	04-Apr-85	2850.00	NULL	30
2	756	Dennis	Lynn	S	671	15-May-85	2750.00	NULL	30
3	757	Baker	Leslie	D	671	10-Jun-85	2200.00	NULL	40
4	7369	Smith	John	Q	667	17-Dec-84	880.00	NULL	20
5	7499	Allen	Kevin	J	670	20-Feb-85	1600.00	300	30
6	7521	Wark	Cynthia	D	670	22-Feb-85	1250.00	50	30

Query – 7:

```
Question-7: Display the second highest salary drawing employee
details.
SELECT
    First_Name, Last_Name, Employee_Id, Salary
FROM Employee
WHERE Salary = (
SELECT MAX(Salary) FROM Employee
WHERE Salary < (SELECT MAX(Salary) FROM Employee));</pre>
```

Answer -7:



Query – 8:

```
Question-8: List out the employees who earn more than every employee in
department 30.
SELECT
    First_Name, Last_Name, Employee_Id
FROM Employee
WHERE Salary >
(SELECT MAX(Salary) FROM Employee WHERE Department_Id = 30);
```

Answer – 8:



Query – 9:

```
Question-9: Find out which department has no employees.
SELECT Department_Id, Name
FROM Department
WHERE Department_Id NOT IN
(SELECT DISTINCT Department_Id FROM Employee);
```

Answer – 9:



Query – 10:

```
Question-10: Find out the employees who earn greater than the
average salary for their department.
SELECT
    E1.First_Name, E1.Last_Name, E1.Employee_Id
FROM Employee E1
WHERE Salary >
(SELECT AVG(Salary) FROM Employee E2
WHERE E1.Department_Id = E2.Department_Id);
```

Answer – 10:

	First_Name	Last_Name	Employee_ld		
1	Jean	Doyle	755		
2	Lynn	Dennis	756		