Section 9

DP_9.1:

```
1   SELECT * FROM Employes;
```

Results Explain Describe Saved SQL History

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	MANAGER_ID	DEPARTMENT_ID
3	Bob	Johnson	bob.johnson@example.com	555-123-4567	01-Mar-2020	DEVELOPER	45000	123424	207943
1	John	Doe	john123@example.com	1234567890	01-Jan-2020	MANAGER	50000	1872329	2451
2	Jane	Smith	jane.smith@example.com	987-654-3210	01-Feb-2020	DEVELOPER	40000	12231	21314

3 rows returned in 0.00 seconds   Download

```
1   SELECT * FROM jobs;
```

Results   Explain   Describe   Saved SQL   History

JOB_ID	JOB_TITLE	MIN_SALARY	MAX_SALARY
MANAGER	Manager	50000	70000
DEVELOPER	Software Developer	40000	60000
ANALYST	Business Analyst	45000	65000
SALESREP	Sales Representative	30000	50000

4 rows returned in 0.00 seconds   Download

```
1   SELECT*FROM departments;
```

Results   Explain   Describe   Saved SQL   History

DEPARTMENT_ID	DEPARTMENT_NAME	LOCATION
1	Sales	New York
2	IT	Chicago
5	Finance	Chicago
3	Marketing	Los Angeles
4	HR	New York

5 rows returned in 0.01 seconds   Download

```
1   SELECT department_id, AVG(salary)
2   FROM Employes
3   GROUP BY department_id
4   ORDER BY department_id;
```

Results   Explain   Describe   Saved SQL   History

DEPARTMENT_ID	AVG(SALARY)
207943	45000
21314	40000
2451	50000

3 rows returned in 0.00 seconds   Download

```
1   SELECT MAX(salary)
2   FROM Employes
3   GROUP BY department_id;
```

Results   Explain   Describe   Saved SQL   History

MAX(SALARY)
50000
45000
40000

3 rows returned in 0.00 seconds   Download

```
1  SELECT department_id, MAX(salary)
2  FROM Employes
3  GROUP BY department_id;
```

Results **Explain** **Describe** **Saved SQL** **History**

DEPARTMENT_ID	MAX(SALARY)
2451	50000
207943	45000
21314	40000

3 rows returned in 0.00 seconds   Download

```
1  SELECT job_id, last_name, AVG(salary)
2  FROM employees
3  GROUP BY job_id;
```

Results **Explain** **Describe** **Saved SQL** **History**

❌ Error at line 1/16: ORA-00979: not a GROUP BY expression

Find Tables

```
1  SELECT COUNT(job_id),department_id
2  FROM Employes
3  GROUP BY department_id
4  ORDER BY department_id;
```

Results **Explain** **Describe** **Saved SQL** **History**

COUNT(JOB_ID)	DEPARTMENT_ID
1	207943
1	21314
1	2451

3 rows returned in 0.00 seconds   Download

```sql
1  SELECT COUNT(*),department_id
2  FROM Employes
3  GROUP BY department_id
4  ORDER BY department_id;
```

COUNT(*)	DEPARTMENT_ID
1	207943
1	21314
1	2451

3 rows returned in 0.00 seconds   Download

```sql
1  SELECT department_id, MAX(salary)
2  FROM employees
3  WHERE last_name != 'Doe'
4  GROUP BY department_id;
```

no data found

Find Tables

```sql
1   SELECT department_id,ROUND(AVG(SALARY))AS salary
2   FROM Employes
3   GROUP BY department_id
4   ORDER BY department_id;
```

Results   Explain   Describe   Saved SQL   History

DEPARTMENT_ID	SALARY
207943	45000
21314	40000
2451	50000

3 rows returned in 0.01 seconds   Download

```sql
1   SELECT department_id,COUNT(job_id)AS "number of job ids"
2   FROM Employes
3   GROUP BY department_id;
```

Results   Explain   Describe   Saved SQL   History

DEPARTMENT_ID	number of job ids
2451	1
207943	1
21314	1

3 rows returned in 0.00 seconds   Download

```sql
1    SELECT department_id, job_id, count(*)
2    FROM Employes
3    WHERE department_id > 2067
4    GROUP BY department_id, job_id;
```

DEPARTMENT_ID	JOB_ID	COUNT(*)
2451	MANAGER	1
207943	DEVELOPER	1
21314	DEVELOPER	1

3 rows returned in 0.00 seconds   Download

```sql
1    SELECT max(avg(salary))
2    FROM Employes
3    GROUP by department_id
```

MAX(AVG(SALARY))
50000

rows returned in 0.00 seconds   Download

Find Tables

```
1    SELECT department_id, MAX(salary)
2    FROM Employes
3    WHERE COUNT(*) > 1
4    GROUP BY department_id;
5
```

Results   Explain   Describe   Saved SQL   History

❌ Error at line 3/7: ORA-00934: group function is not allowed here

---

Find Tables

```
1    SELECT department_id, MAX(salary)
2    FROM Employes
3    GROUP BY department_id
4    HAVING COUNT(*)>1
5    ORDER BY department_id;
6
7
```

Results   Explain   Describe   Saved SQL   History

no data found

DP 9.2:

```
1   SELECT department_id, job_id, SUM(salary)
2   FROM Employes
3   WHERE department_id > 50
4   GROUP BY ROLLUP (department_id, job_id)
```

Results   Explain   Describe   Saved SQL   History

DEPARTMENT_ID	JOB_ID	SUM(SALARY)
2451	MANAGER	50000
2451	-	50000
21314	DEVELOPER	40000
21314	-	40000
207943	DEVELOPER	45000
207943	-	45000
-	-	135000

7 rows returned in 0.00 seconds   Download

```
1   SELECT department_id, job_id, SUM(salary)
2   FROM Employes
3   WHERE department_id > 50
4   GROUP BY  (department_id, job_id)
```

Results   Explain   Describe   Saved SQL   History

DEPARTMENT_ID	JOB_ID	SUM(SALARY)
2451	MANAGER	50000
207943	DEVELOPER	45000
21314	DEVELOPER	40000

3 rows returned in 0.00 seconds   Download

```sql
1    SELECT department_id, job_id, SUM(salary)
2    FROM Employes
3    WHERE department_id > 50
4    GROUP BY CUBE (department_id, job_id)
```

Results Explain Describe Saved SQL History

DEPARTMENT_ID	JOB_ID	SUM(SALARY)
-	-	135000
-	MANAGER	50000
-	DEVELOPER	85000
2451	-	50000
2451	MANAGER	50000
21314	-	40000
21314	DEVELOPER	40000
207943	-	45000
207943	DEVELOPER	45000

9 rows returned in 0.01 seconds   Download

```sql
1    SELECT department_id, job_id, manager_id, SUM(salary)
2    FROM Employes
3    WHERE department_id > 50
4    GROUP BY GROUPING SETS
5    ((job_id, manager_id),(department_id, job_id),
6    (department_id, manager_id));
```

Results Explain Describe Saved SQL History

DEPARTMENT_ID	JOB_ID	MANAGER_ID	SUM(SALARY)
2451	MANAGER	-	50000
207943	DEVELOPER	-	45000
21314	DEVELOPER	-	40000
-	DEVELOPER	123424	45000
-	MANAGER	1872329	50000
-	DEVELOPER	12231	40000
21314	-	12231	40000
2451	-	1872329	50000
207943	-	123424	45000

9 rows returned in 0.01 seconds   Download

```
1    SELECT department_id, job_id, SUM(salary),
2    GROUPING(department_id) AS "Dept sub total",
3    GROUPING(job_id) AS "Job sub total"
4    FROM Employes
5    WHERE department_id > 50
6    GROUP BY CUBE (department_id, job_id);
```

Results Explain Describe Saved SQL History

DEPARTMENT_ID	JOB_ID	SUM(SALARY)	Dept sub total	Job sub total
-	-	135000	1	1
-	MANAGER	50000	1	0
-	DEVELOPER	85000	1	0
2451	-	50000	0	1
2451	MANAGER	50000	0	0
21314	-	40000	0	1
21314	DEVELOPER	40000	0	0
207943	-	45000	0	1
207943	DEVELOPER	45000	0	0

9 rows returned in 0.00 seconds   Download

DP 9.3:

```
1    SELECT hire_date, employee_id, job_id
2    FROM Employes
3    UNION
4    SELECT TO_DATE(NULL),job_title,
5    job_id
6    FROM jobs;
```

Results Explain Describe Saved SQL History

HIRE_DATE	EMPLOYEE_ID	JOB_ID
01-Jan-2020	1	MANAGER
01-Feb-2020	2	DEVELOPER
01-Mar-2020	3	DEVELOPER
-	Business Analyst	ANALYST
-	Manager	MANAGER
-	Sales Representative	SALESREP
-	Software Developer	DEVELOPER

7 rows returned in 0.00 seconds   Download

```sql
1    SELECT hire_date, employee_id, job_id
2    FROM Employes
3    UNION
4    SELECT TO_DATE(NULL),job_title, job_id
5    FROM jobs
6    ORDER BY employee_id;
```

Results Explain **Describe** Saved SQL History

HIRE_DATE	EMPLOYEE_ID	JOB_ID
01-Jan-2020	1	MANAGER
01-Feb-2020	2	DEVELOPER
01-Mar-2020	3	DEVELOPER
-	Business Analyst	ANALYST
-	Manager	MANAGER
-	Sales Representative	SALESREP
-	Software Developer	DEVELOPER

7 rows returned in 0.00 seconds   Download

```sql
1    SELECT TO_DATE(null)hire_date, employee_id, job_id
2    FROM Employes
3    UNION
4    SELECT TO_DATE(NULL),job_title, job_id
5    FROM jobs
6    ORDER BY employee_id;
```

Results Explain Describe Saved SQL History

HIRE_DATE	EMPLOYEE_ID	JOB_ID
-	1	MANAGER
-	2	DEVELOPER
-	3	DEVELOPER
-	Business Analyst	ANALYST
-	Manager	MANAGER
-	Sales Representative	SALESREP
-	Software Developer	DEVELOPER

7 rows returned in 0.01 seconds   Download