

DB Lab 03 Tasks

Name: Yash Raj
Roll Number: 24k-0737

Task 01: Create a table Employees with columns:

The screenshot shows the Oracle SQL Developer interface. The top menu bar has 'Worksheet' and 'Query Builder' tabs, with 'Worksheet' selected. In the main workspace, a SQL script is displayed:

```
create table newEmployee (
    emp_id VARCHAR2(10) PRIMARY KEY,
    emp_name VARCHAR2(50),
    age NUMBER,
    salary NUMBER,
    join_date DATE
);
```

Below the workspace is a 'Script Output' window with the following content:

Table NEWEMPLOYEE created.

Task 02: Modify the emp_name column to allow 100 characters.

The screenshot shows the Oracle SQL Developer interface. The top menu bar has 'Worksheet' and 'Query Builder' tabs, with 'Worksheet' selected. In the main workspace, a SQL script is displayed:

```
alter table newEmployee modify emp_name VARCHAR2(100);
desc newEmployee;
```

Below the workspace is a 'Script Output' window with the following content:

Table NEWEMPLOYEE created.

At the bottom of the interface, a table shows the column details for the 'newEmployee' table:

Name	Null?	Type
EMP_ID	NOT NULL	VARCHAR2(10)
EMP_NAME		VARCHAR2(100)
AGE		NUMBER
SALARY		NUMBER
JOIN_DATE		DATE

Task 03: Add a new column email VARCHAR2(100) to the table.

The screenshot shows the Oracle SQL Developer interface. The Worksheet tab is active, displaying the following SQL code:

```
alter table newEmployee add email varchar2(100);
desc newEmployee;
```

Below the worksheet, the Script Output window shows the results of the task:

Task completed in 0.129 seconds

Name	Null?	Type
EMP_ID	NOT NULL	VARCHAR2 (10)
EMP_NAME		VARCHAR2 (100)
AGE		NUMBER
SALARY		NUMBER
JOIN_DATE		DATE
EMAIL		VARCHAR2 (100)

Task 04: Add a UNIQUE constraint on the email column.

The screenshot shows the Oracle SQL Developer interface. The Worksheet tab is active, displaying the following SQL code:

```
alter table newEmployee add constraint email_all unique(emp_name);
```

Below the worksheet, the Script Output window shows the results of the task:

Task completed in 0.046 seconds

Table NEWEMPLOYEE altered.

Task 05: Add a CHECK constraint to ensure age is greater than or equal to 18

The screenshot shows the Oracle SQL Developer interface. The Worksheet tab is active, displaying the following SQL code:

```
alter table newEmployee add constraint check_age check (age >=18);
```

Below the worksheet, the Script Output window shows the results of the task:

Task completed in 0.048 seconds

Table NEWEMPLOYEE altered.

Task 06: Insert 5 employees with different emp_id, emp_name, age, salary, and join_date.

The screenshot shows the Oracle SQL Developer interface. The 'Query Builder' tab is active, displaying the following SQL code:

```
insert INTO newEmployee (emp_id, emp_name, age,salary,join_date)values('100','Yash Raj',21,210000,TO_DATE('2002-02-05', 'YYYY-MM-DD'));
insert INTO newEmployee (emp_id, emp_name, age,salary,join_date)values('109','Saad Aamer',29,110300,TO_DATE('2004-10-01', 'YYYY-MM-DD'));
insert INTO newEmployee (emp_id, emp_name, age,salary,join_date)values('102','Raza',20,210022,TO_DATE('2005-02-02', 'YYYY-MM-DD'));
insert INTO newEmployee (emp_id, emp_name, age,salary,join_date)values('105','Muhib Bhai',22,210433,TO_DATE('2002-11-05', 'YYYY-MM-DD'));
insert INTO newEmployee (emp_id, emp_name, age,salary,join_date)values('103','Mansoor',21,210400,TO_DATE('2002-01-20', 'YYYY-MM-DD'));
Select * from newEmployee;
```

The 'Script Output' tab shows the command run and the message 'All Rows Fetched: 5 in 0.016 seconds'. The 'Query Result' tab displays a table with the inserted data:

EMP_ID	EMP_NAME	AGE	SALARY	JOIN_DATE	EMAIL
1 100	Yash Raj	21	210000	05-FEB-02	(null)
2 109	Saad Aamer	29	110300	01-OCT-04	(null)
3 102	Raza	20	210022	02-FEB-05	(null)
4 105	Muhib Bhai	22	210433	05-NOV-02	(null)
5 103	Mansoor	21	210400	20-JAN-02	(null)

Task 07: Insert an employee with age = 16 and see the CHECK constraint fail.

The screenshot shows the Oracle SQL Developer interface. The 'Query Builder' tab is active, displaying the following SQL code:

```
insert INTO newEmployee (emp_id, emp_name, age,salary,join_date)values('130','Asad',17,210400,TO_DATE('2002-01-20', 'YYYY-MM-DD'));
```

The 'Script Output' tab shows the command run and the message 'Task completed in 0.058 seconds'. The 'Error' tab displays the following error message:

Error starting at line : 37 in command -
insert INTO newEmployee (emp_id, emp_name, age,salary,join_date)values('130','Asad',17,210400,TO_DATE('2002-01-20', 'YYYY-MM-DD'))
Error report -
ORA-02290: check constraint (SYS.CHECK_AGE) violated
<https://docs.oracle.com/error-help/db/ora-02290/>
More Details :
<https://docs.oracle.com/error-help/db/ora-02290/>

Task 08: Insert a new employee with an email that duplicates another employee and see the UNIQUE constraint fail.

The screenshot shows the Oracle SQL Developer interface. The 'Query Builder' tab is active, displaying the following SQL code:

```
insert INTO newEmployee (emp_id, emp_name, age,salary,join_date,email)values('130','Asad',22,210400,TO_DATE('2002-01-20', 'YYYY-MM-DD'),'Yashmandhn@gmail.com');
insert INTO newEmployee (emp_id, emp_name, age,salary,join_date,email)values('120','Asadullah',24,210400,TO_DATE('2002-01-20', 'YYYY-MM-DD'),'Yashmandhn@gmail.com');
```

The 'Script Output' tab shows the command run and the message 'Task completed in 0.044 seconds'. The 'Error' tab displays the following error message:

1 row inserted.

Error starting at line : 42 in command -
insert INTO newEmployee (emp_id, emp_name, age,salary,join_date,email)values('120','Asadullah',24,210400,TO_DATE('2002-01-20', 'YYYY-MM-DD'),'Yashmandhn@gmail.com')
Error report -
ORA-00001: unique constraint (SYS.SYS_C008316) violated
<https://docs.oracle.com/error-help/db/ora-00001/>
More Details :
<https://docs.oracle.com/error-help/db/ora-00001/>

Task 09: Delete an employee with emp_id = 'xyz' and use ROLLBACK to undo the deletion.

Before Deletion :

The screenshot shows the MySQL Workbench interface with a query editor containing the SQL command "Select * from newEmployee;". Below the editor is a "Query Result" tab showing the following data:

	EMP_ID	EMP_NAME	AGE	SALARY	JOIN_DATE	EMAIL
1	100	Yash Raj	21	210000	05-FEB-02	(null)
2	109	Saad Aamer	29	110300	01-OCT-04	(null)
3	102	Raza	20	210022	02-FEB-05	(null)
4	105	Muhib Bhai	22	210433	05-NOV-02	(null)
5	103	Mansoor	21	210400	20-JAN-02	(null)

Deletion :

The screenshot shows the MySQL Workbench interface with a query editor containing the following SQL commands:

```
Select * from newEmployee;
delete from newEmployee where emp_id = '103';
```

Below the editor is a "Script Output" tab showing the message "Task completed in 0.027 seconds".

1 row deleted.

RollBack :

The screenshot shows the MySQL Workbench interface with a query editor containing the following SQL commands:

```
Select * from newEmployee;
delete from newEmployee where emp_id = '103';
rollback;
```

Below the editor is a "Script Output" tab showing the message "Task completed in 0.042 seconds".

1 row deleted.

Rollback complete.

Task 10: Remove all records from the table without deleting the table structure.

```
Truncate table newEmployee;
```

Script Output x

Task completed in 0.049 seconds

Table NEWEMPLOYEE truncated.

After Truncate :

```
Truncate table newEmployee;
Select * from newEmployee;
```

Script Output x Query Result x

All Rows Fetched: 0 in 0.006 seconds

EMP_ID	EMP_NAME	AGE	SALARY	JOIN_DATE
--------	----------	-----	--------	-----------