EXERCISE 13
Creating Views

1. What are three uses for a view from a DBA's perspective?

① security : restrict user access to specific column or row
② Simplification : Simplify complex queries for end user
③ Data Consistency : present consistent read only data to multiple users

2. Create a simple view called view_d_songs that contains the ID, title and artist from the DJs on Demand table for each "New Age" type code. In the subquery, use the alias "Song Title" for the title column.

```
create view  view_d_songs AS
select id , title AS "Song title", artist
from djs_on_demand
    where type_code = 'New Ag';
```

3. SELECT * FROM view_d_songs. What was returned?

select * from view_d_songs displays :
Displays id songtitle and artist column

4. REPLACE view_d_songs. Add type_code to the column list. Use aliases for all columns.

```
Create OR replace view view_d_songs AS
Select id AS "ID" , title AS "Song title", type_code AS
"type Code" from djs_on_demand
    where type_code = 'New Ag'
```

Or use alias after the CREATE statement as shown.

5. Jason Tsang, the disk jockey for DJs on Demand, needs a list of the past events and those planned for the coming months so he can make arrangements for each event's equipment setup. As the company manager, you do not want him to have access to the price that clients paid for their events. Create a view for Jason to use that displays the name of the event, the event date, and the theme description. Use aliases for each column name.

```
Create view   view . event . jason AS
Select        event - name AS "EVent name"
              event . date AS "event Date"
              theme desc AS "Them Description
From event
```

6. It is company policy that only upper-level management be allowed access to individual employee salaries. The department managers, however, need to know the minimum, maximum, and average salaries, grouped by department. Use the Oracle database to prepare a view that displays the needed information for department managers.

```
Create view dept - Salary. summary As
    Select department . id A "DeptID"
        MIN (salary) As " minimum Salary"
        MAx (salary) AS " maximum salary"
        AVG (salary) AS "Averag salary"
    From employees
    Group by department - id.
```

DML Operations and Views

Use the DESCRIBE statement to verify that you have tables named copy_d_songs, copy_d_events, copy_d_cds, and copy_d_clients in your schema. If you don't, write a query to create a copy of each.

1. Query the data dictionary USER_UPDATABLE_COLUMNS to make sure the columns in the base tables will allow UPDATE, INSERT, or DELETE. All table names in the data dictionary are stored in uppercase.

```
select table_name, column_name, insertable, updatable
deletable from user_updatable_columns
where table_name = 'copy_d_songs';
```

Use the same syntax but change table_name of the other tables.

2. Use the CREATE or REPLACE option to create a view of *all* the columns in the copy_d_songs table called view_copy_d_songs.

```
Create or Replace view view_copy_d_songs AS
select * from copy_d_songs
```

3. Use view_copy_d_songs to INSERT the following data into the underlying copy_d_songs table. Execute a SELECT * from copy_d_songs to verify your DML command. See the graphic.

ID	TITLE	DURATION	ARTIST	TYPE_CODE
88	Mello Jello	2	The What	4

```
INSERT into view_copy_d_songs (id, title, duration,
                               artist, type_
VALUES (88, 'Hello Jello', 2, 'The What', 4);
```

- Verify:

```
select * from copy_d_songs
```

4. Create a view based on the DJs on Demand COPY_D_CDS table. Name the view read_copy_d_cds. Select all columns to be included in the view. Add a WHERE clause to restrict the year to 2000. Add the WITH READ ONLY option.

```
Create or replace view read_copy_d_cds as
Select *
From copy_rd_cds
Where year = 2000
With Read Only
```

5. Using the read_copy_d_cds view, execute a DELETE FROM read_copy_d_cds WHERE cd_number = 90;

```
Delete from read_copy_d_cds where cd_number = 90;
```

6. Use REPLACE to modify read_copy_d_cds. Replace the READ ONLY option with WITH CHECK OPTION CONSTRAINT ck_read_copy_d_cds. Execute a SELECT * statement to verify that the view exists.

```
create or replace view read_copy_d_cds As
Select *
from copy_d_cds
where year = 2000 with check option constraint ck_read_copy_d_cds;
```

7. Use the read_copy_d_cds view to delete any CD of year 2000 from the underlying copy_d_cds.

```
DELETE from read_copy_d_cds where year = 2
```

8. Use the read_copy_d_cds view to delete cd_number 90 from the underlying copy_d_cds table.

```
DELETE from read_copy_d_cds where cd_number = 9
```

9. Use the read_copy_d_cds view to delete year 2001 records.

```
Delete from read_copy_d_cds where year = 200
```

10. Execute a SELECT * statement for the base table copy_d_cds. What rows were deleted?

SELECT * from copy.d.cds

11. What are the restrictions on modifying data through a view?

A view cannot modify data if it contains group by distinct function + user join between multiple tbl

12. What is Moore's Law? Do you consider that it will continue to apply indefinitely? Support your opinion with research from the internet.

* Moore's law states that the number of transistor on a microchip double roughly every two year leading to exponential growth

13. What is the "singularity" in terms of computing?

The technological singularity is a theoritical point where artificial intelligence surpass human intelligence leading to rapid, unpredictable growth

Managing Views

1. Create a view from the copy_d_songs table called view_copy_d_songs that includes only the title and artist. Execute a SELECT * statement to verify that the view exists.

```
Create view view_copy_d_songs
Select title, artist
From copy_d_songs
select * From view_copy_d_songs;
```

2. Issue a DROP view_copy_d_songs. Execute a SELECT * statement to verify that the view has been deleted.

```
Drop view view_copy_d_songs;
Select * From user_views
where view_name = view_copy_d_songs
```

3. Create a query that selects the last name and salary from the Oracle database. Rank the salaries from highest to lowest for the top three employees.

```
SELECT last_name, salary
From employees
ORDER By salary DESC
FETCH First 3 ROWS only
```

4. Construct an inline view from the Oracle database that lists the last name, salary, department ID, and maximum salary for each department. Hint: One query will need to calculate maximum salary by department ID.

```
SELECT e.last_name, e.salary, e.dept_id d.
max salary from employees e
Join ( select dept_id max(salary) AS max salary from
employees group by dept_id
```

5. Create a query that will return the staff members of Global Fast Foods ranked by salary from lowest to highest.

```
Select staff_name, salary from global
fast foods order by salary ASC;
```