- Group By clause
- Distinct keyword
- Columns contain by expressions
- NOT NULL columns in the base table that are not selected by the view

Example: (Using the WITH CHECK OPTION clause)

```
CREATE OR REPLACE VIEW empvu20
AS    SELECT *
FROM employees
WHERE department_id=20
WITH CHECK OPTION CONSTRAINT empvu20_ck;
```

Note: Any attempt to change the department number for any row in the view fails because it violates the WITH CHECK OPTION constraint.

Example – (Execute this and note the error)

```
UPDATE empvu20 SET department_id=10 WHERE employee_id=201;
```

Denying DML operations

Use of WITH READ ONLY option.
Any attempt to perform a DML on any row in the view results in an oracle server error.

Try this code:

```
CREATE OR REPLACE VIEW empvu10(employee_number, employee_name,job_title)
AS SELECT employee_id, last_name, job_id
FROM employees
WHERE department_id=10
WITH READ ONLY;
```

Find the Solution for the following:

1. Create a view called EMPLOYEE_VU based on the employee numbers, employee names and department numbers from the EMPLOYEES table. Change the heading for the employee name to EMPLOYEE.

```
Create view employees_vu AS
Select employee_id AS ID_Number, last_name AS Name,
Salary * 12 AS MONTHLY_SALARY, department_id AS
DEPT_ID from employees;
```

2. Display the contents of the EMPLOYEES_VU view.

```
Select * from employees_vu;
```

3. Select the view name and text from the USER_VIEWS data dictionary views.

```
Select view_name, text
from user_views;
```

4. Using your EMPLOYEES_VU view, enter a query to display all employees names and department.

```
Select name, dept_id from employees_vu;
```

5. Create a view named DEPT50 that contains the employee number, employee last names and department numbers for all employees in department 50.Label the view columns EMPNO, EMPLOYEE and DEPTNO. Do not allow an employee to be reassigned to another department through the view.

```
Create view dept50 AS Select employee_id AS "Emp#"
last_name AS "Last-name", department_id AS "Dept#"
FROM employees WHERE department_id =50 WITH CHECK OPTION;
```

6. Display the structure and contents of the DEPT50 view.

```
Describe dept50;
Select * from dept50;
```

7. Attempt to reassign Matos to department 80.

```
update dept50
Set "Dept#" = 80
WHERE "Last_name" = 'Matos';
```

8. Create a view called SALARY_VU based on the employee last names, department names. salaries, and salary grades for all employees. Use the Employees, DEPARTMENTS and JOB_GRADE tables. Label the column Employee, Department, salary, and Grade respectively.

```
Create view Salary_vu AS
Select e.last_name AS employee,
       d.department_name AS department
       e.Salary AS Salary,
       j.grade_level AS Grade
FROM employees e
JOIN departments d ON e.department_id = d.departmentid
JOIN job-grades j ON e.Salary BETWEEN
                     j.lowest_sal AND J.highest_sal;
```

Evaluation Procedure	Marks awarded
Query(5)	5
Execution (5)	5
Viva(5)	5
Total (15)	15
Faculty Signature	