You will **create 2 tables** firstly, then **remove / restore** these tables and also to **add / modify /remove** certain database objects like **views** in this lab.

1. Create table CITIES **from table LOCATIONS,** but only for location numbers less than 2000 (do NOT create this table from scratch).

🡪 You will have exactly 10 rows here.

When you describe CITIES, the output is shown below:

SQL> DESC cities

Name Null? Type

----------------------------------------- -------- -----------------

LOCATION\_ID NUMBER(4)

STREET\_ADDRESS VARCHAR2(40)

POSTAL\_CODE VARCHAR2(12)

CITY NOT NULL VARCHAR2(30)

STATE\_PROVINCE VARCHAR2(25)

COUNTRY\_ID CHAR(2)

**CREATE TABLE CITIES AS**

**SELECT \*  
FROM LOCATIONS  
WHERE location\_id < 2000;**

2. Create table TOWNS **from table LOCATIONS,** but only for location numbers less than 1500 (do NOT create this table from scratch). This table will have same structure as table CITIES.

🡪 You will have exactly 5 rows here.

**CREATE TABLE TOWNS AS**

**SELECT \***

**FROM LOCATIONS**

**WHERE location\_id < 1500;**

**SELECT \***

**FROM towns;**

Now you will empty your RECYCLE BIN with one powerful command. Then remove your table TOWNS, so that will remain in the recycle bin. Check that it is really there and what time was removed.

that will remain in the recycle bin. Check that it is really there and what time was removed.

**PURGE RECYCLEBIN;**

**PURGE RECYCLEBIN succeeded.**

**DROP TABLE TOWNS;**

**DROP TABLE TOWNS succeeded.**

**SELECT \***

**FROM RECYCLEBIN;**

4. Restore your table TOWNS from recycle bin and describe it. Check what is in your recycle bin now.

**FLASHBACK TABLE TOWNS TO BEFORE DROP;**

**DESC TOWNS;**

**Name Null Type**

**------------------------------ -------- --------------------------------------**

**LOCATION\_ID NUMBER(4)**

**STREET\_ADDRESS VARCHAR2(40)**

**POSTAL\_CODE VARCHAR2(12)**

**CITY NOT NULL VARCHAR2(30)**

**STATE\_PROVINCE VARCHAR2(25)**

**COUNTRY\_ID CHAR(2)**

**SELECT \***

**FROM RECYCLEBIN;**

**0 rows selected**

5. Now remove table TOWNS so that does NOT remain in the recycle bin. Check that is really NOT there and then try to restore it. Explain what happened?

**DROP TABLE TOWNS PURGE;**

**SELECT \***

**FROM RECYCLEBIN;**

**0 rows selected**

**SQL Error: ORA-38305: object not in RECYCLE BIN**

**38305. 00000 - "object not in RECYCLE BIN"**

**The DROP TABLE statement moves a table to the recycle bin and also you can use FLASHBACK TABLE statement to bring it back. Unless you specify the PURGE statement, it can drop a table entirely and you can never bring it back**

6. Create simple view called CAN\_CITY\_VU, based on table CITIES so that will contain only columns Street\_Address, Postal\_Code, City and State\_Province for locations only in CANADA. Then display all data from this view.

**CREATE VIEW CAN\_CITY\_VU AS**

**SELECT street\_address, postal\_code, city, state\_province**

**FROM CITIES**

**WHERE UPPER(country\_id) = 'CA';**

7. Modify your simple view so that will have following aliases instead of original column names: Str\_Adr, P\_Code, City and Prov and also will include cities from ITALY as well. Then display all data from this view.

**CREATE OR REPLACE VIEW CAN\_CITY\_VU (Str\_Adr, P\_Code, City, Prov) AS**

**SELECT street\_address, postal\_code, city, state\_province**

**FROM CITIES**

**WHERE UPPER(country\_id) IN('CA','IT');**

8. Create complex view called CITY\_DNAME\_VU, based on tables LOCATIONS and DEPARTMENTS, so that will contain only columns Department\_Name, City and State\_Province for locations in ITALY or CANADA. Include situations even when city does NOT have department established yet. Then display all data from this view.

**CREATE VIEW CITY\_DNAME\_VU AS**

**SELECT department\_name, city, state\_province**

**FROM LOCATIONS LEFT JOIN DEPARTMENTS USING(location\_id)**

**WHERE country\_id IN('IT','CA');**

9. Modify your complex view so that will have following aliases instead of original column names: DName, City and Prov and also will include all cities outside United States

Include situations even when city does NOT have department established yet. Then display all data from this view.

**CREATE OR REPLACE VIEW CITY\_DNAME\_VU (DName, City, Prov) AS**

**SELECT department\_name, city, state\_province**

**FROM locations LEFT JOIN departments USING(location\_id)**

**WHERE UPPER(country\_id) != 'US';**

**DNAME CITY PROV**

**------------------------------ ----------------------- ----------------**

**Roma**

**Venice**

**Tokyo Tokyo Prefecture**

**Hiroshima**

**Marketing Toronto Ontario**

**Whitehorse Yukon**

**Beijing**

**Bombay Maharashtra**

**Sydney New South Wales**

**Singapore**

**London**

**Sales Oxford Oxford**

**Stretford Manchester**

**Munich Bavaria**

**Sao Paulo Sao Paulo**

**Geneva Geneve**

**Bern BE**

**Utrecht Utrecht**

10. Check in the Data Dictionary what Views (their names and definitions) are created so far in your account. Then drop your CITY\_DNAME\_VU and check Data Dictionary again. What is different?

**SELECT SUBSTR(OBJECT\_NAME, 0, 15) "Object Name", OBJECT\_TYPE, CREATED**

**FROM USER\_OBJECTS**

**WHERE OBJECT\_TYPE = 'VIEW';**

**SELECT view\_name**

**FROM user\_views;**

**Object Name OBJECT\_TYPE CREATED**

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**ALLDEPTS VIEW 16-11-15**

**ALLDEPTSUMM VIEW 16-11-15**

**ALLEMPS VIEW 16-11-15**

**CAN\_CITY\_VU VIEW 16-11-22**

**CITY\_DNAME\_VU VIEW 16-11-22**

**DROP VIEW CITY\_DNAME\_VU;**

**DROP VIEW CITY\_DNAME\_VU succeeded.**

**SELECT SUBSTR(OBJECT\_NAME, 0, 15) "Object Name", OBJECT\_TYPE, CREATED**

**FROM USER\_OBJECTS**

**WHERE OBJECT\_TYPE = 'VIEW';**

**Object Name OBJECT\_TYPE CREATED**

**--------------- ------------------- -------------------------**

**ALLDEPTS VIEW 16-11-15**

**ALLDEPTSUMM VIEW 16-11-15**

**ALLEMPS VIEW 16-11-15**

**CAN\_CITY\_VU VIEW 16-11-22**

**The view ‘CITY\_DNAME\_VU’ is deleted.**