```
SQL> SET LINESIZE 100;
SQL> SET PAGESIZE 20;
SQL> --Q1)
SQL> CREATE TABLE Course_Taken ( Student_name varchar(15),Course varchar(30));

Table created.

SQL> INSERT INTO Course_Taken VALUES('Robert','Databases');

1 row created.

SQL> INSERT INTO Course_Taken VALUES('Robert','Programming Languages');

1 row created.

SQL> INSERT INTO Course_Taken VALUES('David','Databases');

1 row created.

SQL> INSERT INTO Course_Taken VALUES('Hannah','Programming Languages');

1 row created.

SQL> INSERT INTO Course_Taken VALUES('Hannah','Programming Languages');

1 row created.

SQL> INSERT INTO Course_Taken VALUES('Tom','Operating systems');

1 row created.

SQL> INSERT INTO Course_Taken VALUES('David','Operating systems');

1 row created.

SQL> SELECT * FROM Course_Taken;

STUDENT_NAME    COURSE
--------------- ------------------------------
```

```
SQL> SELECT * FROM Course_Taken;

STUDENT_NAME      COURSE
--------------    --------------------------------
Robert            Databases
Robert            Programming Languages
David             Databases
Hannah            Programming Languages
Hannah            Programming Languages
Tom               Operating systems
David             Operating systems

7 rows selected.

SQL> CREATE TABLE Course_Required (Course varchar(30));

Table created.

SQL> INSERT INTO Course_Required VALUES('Databases');

1 row created.

SQL> INSERT INTO Course_Required VALUES('Programming Languages');

1 row created.

SQL> SELECT * from Course_Required;

COURSE
--------------------------------
Databases
Programming Languages

SQL>
SQL> --a)
SQL> CREATE TABLE T1 AS (SELECT DISTINCT (Student_name) FROM Course_Taken);
CREATE TABLE T1 AS (SELECT DISTINCT (Student_name) FROM Course_Taken)
         *
ERROR at line 1:
ORA-00955: name is already used by an existing object
```

Type here to search

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```
SQL>
SQL> --a)
SQL> CREATE TABLE T1 AS (SELECT DISTINCT (Student_name) FROM Course_Taken);
CREATE TABLE T1 AS (SELECT DISTINCT (Student_name) FROM Course_Taken)
             *
ERROR at line 1:
ORA-00955: name is already used by an existing object


SQL> SELECT * FROM T1;

STUDENT_NAME
---------------
Robert
Tom
David
Hannah

SQL> --b)
SQL> CREATE TABLE T2 AS (SELECT * FROM T1,Course_Required);
CREATE TABLE T2 AS (SELECT * FROM T1,Course_Required)
             *
ERROR at line 1:
ORA-00955: name is already used by an existing object


SQL> SELECT * FROM T2;

STUDENT_NAME     COURSE
---------------  --------------------------------
Robert           Databases
Tom              Databases
David            Databases
Hannah           Databases
Robert           Programming Languages
Tom              Programming Languages
David            Programming Languages
Hannah           Programming Languages

8 rows selected.
```

```
8 rows selected.

SQL> --c)
SQL> CREATE TABLE T3 AS ((SELECT * FROM T2) MINUS (SELECT * FROM Course_Taken));
CREATE TABLE T3 AS ((SELECT * FROM T2) MINUS (SELECT * FROM Course_Taken))
             *
ERROR at line 1:
ORA-00955: name is already used by an existing object


SQL> SELECT * FROM T3;

STUDENT_NAME     COURSE
---------------  --------------------------------
David            Programming Languages
Hannah           Databases
Tom              Databases
Tom              Programming Languages

SQL> --d)
SQL> CREATE TABLE T4 AS (SELECT * FROM T2 MINUS SELECT * FROM Course_Taken);
CREATE TABLE T4 AS (SELECT * FROM T2 MINUS SELECT * FROM Course_Taken)
             *
ERROR at line 1:
ORA-00955: name is already used by an existing object


SQL> SELECT DISTINCT (Student_name) FROM T4;

STUDENT_NAME
---------------
Tom
David
Hannah

SQL> --e)
SQL> CREATE TABLE T5 AS (SELECT * FROM T1 MINUS SELECT DISTINCT (Student_name) FROM T4);
CREATE TABLE T5 AS (SELECT * FROM T1 MINUS SELECT DISTINCT (Student_name) FROM T4)
             *
ERROR at line 1:
```

```
David
Hannah

SQL> --e)
SQL> CREATE TABLE T5 AS (SELECT * FROM T1 MINUS SELECT DISTINCT (Student_name) FROM T4);
CREATE TABLE T5 AS (SELECT * FROM T1 MINUS SELECT DISTINCT (Student_name) FROM T4)
             *
ERROR at line 1:
ORA-00955: name is already used by an existing object


SQL> SELECT * FROM T5;

STUDENT_NAME
---------------
Robert

SQL>
SQL> --Q2)
SQL> SELECT DISTINCT(student_name) FROM (SELECT * FROM
  2  (SELECT DISTINCT(student_name) FROM Course_Taken),
  3  (SELECT course FROM Course_Required)
  4  MINUS
  5  SELECT student_name, course FROM Course_Taken);

STUDENT_NAME
---------------
Tom
David
Hannah

SQL>
SQL> CREATE TABLE tab AS (SELECT * FROM Course_Taken WHERE course = ANY(SELECT course FROM Course_Required));

Table created.

SQL> CREATE TABLE Non_Graduate AS SELECT DISTINCT(student_name) FROM (SELECT * FROM T2 MINUS SELECT * FROM tab);

Table created.

SQL> SELECT * FROM Non_Graduate;
```

```
Command Prompt - sqlplus

SQL> --Q2)
SQL> SELECT DISTINCT(student_name) FROM (SELECT * FROM
  2  (SELECT DISTINCT(student_name) FROM Course_Taken),
  3  (SELECT course FROM Course_Required)
  4  MINUS
  5  SELECT student_name, course FROM Course_Taken);

STUDENT_NAME
---------------
Tom
David
Hannah

SQL>
SQL> CREATE TABLE tab AS (SELECT * FROM Course_Taken WHERE course = ANY(SELECT course FROM Course_Required));

Table created.

SQL> CREATE TABLE Non_Graduate AS SELECT DISTINCT(student_name) FROM (SELECT * FROM T2 MINUS SELECT * FROM tab);

Table created.

SQL> SELECT * FROM Non_Graduate;

STUDENT_NAME
---------------
Tom
David
Hannah

SQL>
SQL> SELECT * FROM T1 INTERSECT SELECT DISTINCT(student_name) FROM T3;

STUDENT_NAME
---------------
David
Hannah
Tom

SQL> --Q3)
SQL> CREATE TABLE Bank (Bank_name varchar(5),State_name varchar(15));
```

```
Command Prompt - sqlplus                                                                 ─  ▢  ✕

SQL> --Q3)
SQL> CREATE TABLE Bank (Bank_name varchar(5),State_name varchar(15));

Table created.

SQL> INSERT INTO Bank VALUES('SBI','Andhra Pradesh');

1 row created.

SQL> INSERT INTO Bank VALUES('SBI','Tamilnadu');

1 row created.

SQL> INSERT INTO Bank VALUES('SBI','Karnataka');

1 row created.

SQL> INSERT INTO Bank VALUES('ICICI','Tamilnadu');

1 row created.

SQL> INSERT INTO Bank VALUES('ICICI','Karnataka');

1 row created.

SQL> SELECT * FROM Bank;

BANK_ STATE_NAME
----- ---------------
SBI   Andhra Pradesh
SBI   Tamilnadu
SBI   Karnataka
ICICI Tamilnadu
ICICI Karnataka

SQL>
SQL> CREATE TABLE Account_Holder ( Account_name varchar(15),Bank_name varchar(5),State_name varchar(15));

Table created.

SQL> INSERT INTO Account_Holder VALUES('Ramesh','ICICI','Tamilnadu');
```

```
SQL> CREATE TABLE Account_Holder ( Account_name varchar(15),Bank_name varchar(5),State_name varchar(15));

Table created.

SQL> INSERT INTO Account_Holder VALUES('Ramesh','ICICI','Tamilnadu');

1 row created.

SQL> INSERT INTO Account_Holder VALUES('Dinesh','SBI','Andhra Pradesh');

1 row created.

SQL> INSERT INTO Account_Holder VALUES('Robert','SBI','Tamilnadu');

1 row created.

SQL> INSERT INTO Account_Holder VALUES('Robert','ICICI','Karnataka');

1 row created.

SQL> INSERT INTO Account_Holder VALUES('Robert','SBI','Andhra Pradesh');

1 row created.

SQL> INSERT INTO Account_Holder VALUES('Karthik','SBI','Andhra Pradesh');

1 row created.

SQL> SELECT * FROM Account_Holder;

ACCOUNT_NAME    BANK_ STATE_NAME
--------------- ----- ---------------
Ramesh          ICICI Tamilnadu
Dinesh          SBI   Andhra Pradesh
Robert          SBI   Tamilnadu
Robert          ICICI Karnataka
Robert          SBI   Andhra Pradesh
Karthik         SBI   Andhra Pradesh

6 rows selected.
```

```
6 rows selected.

SQL>
SQL> --a)
SQL> CREATE TABLE A1 AS (SELECT DISTINCT (Account_name) FROM Account_Holder);

Table created.

SQL> SELECT * FROM A1;

ACCOUNT_NAME
---------------
Robert
Karthik
Ramesh
Dinesh

SQL> CREATE TABLE A2 AS (SELECT * FROM A1,Bank);

Table created.

SQL> CREATE TABLE A3 AS(SELECT * from A2 MINUS SELECT * FROM Account_Holder);

Table created.

SQL> CREATE TABLE A4 AS (SELECT DISTINCT(Account_name) FROM A3);

Table created.

SQL> SELECT * FROM A1 MINUS SELECT * FROM A4;

no rows selected

SQL> DROP TABLE A1;

Table dropped.

SQL> DROP TABLE A2;

Table dropped.
```

```
SQL> --b)
SQL> CREATE TABLE A1 AS (SELECT DISTINCT(State_name) FROM Bank);

Table created.

SQL> CREATE TABLE A2 AS (SELECT DISTINCT(Bank_name) FROM Bank);

Table created.

SQL> SELECT * FROM A2;

BANK_
-----
ICICI
SBI

SQL> CREATE TABLE A3 AS
  2  (SELECT * FROM A2, A1);

Table created.

SQL> CREATE TABLE A4 AS
  2  (SELECT * FROM A3
  3  MINUS
  4  SELECT * FROM Bank);

Table created.

SQL> CREATE TABLE A5 AS (SELECT DISTINCT(Bank_name) FROM A4);

Table created.

SQL> SELECT * FROM A2
  2  MINUS
  3  SELECT * FROM A5;

BANK_
-----
SBI

SQL>
```

```
SQL>
SQL> --c)
SQL> SELECT * FROM A5;

BANK_
-----
ICICI

SQL> DROP TABLE A2;

Table dropped.

SQL> DROP TABLE A3;

Table dropped.

SQL> DROP TABLE A4;

Table dropped.

SQL> DROP TABLE A5;

Table dropped.

SQL>
SQL> --d)
SQL>
SQL> CREATE TABLE A2 AS (SELECT Account_Name, State_name FROM Account_Holder);

Table created.

SQL>
SQL> CREATE TABLE A3 AS (SELECT DISTINCT(Account_Name) FROM Account_Holder);

Table created.

SQL> SELECT * FROM A3;

ACCOUNT_NAME
----------------
```

```
Command Prompt - sqlplus                                                              ☐  ⧉  ✕

SQL> CREATE TABLE A3 AS (SELECT DISTINCT(Account_Name) FROM Account_Holder);

Table created.

SQL> SELECT * FROM A3;

ACCOUNT_NAME
---------------
Robert
Karthik
Ramesh
Dinesh

SQL> CREATE TABLE A4 AS
  2  (SELECT * FROM A3, A1);

Table created.

SQL> CREATE TABLE A5 AS
  2  (SELECT * FROM A4
  3  MINUS
  4  SELECT * FROM A2);

Table created.

SQL> CREATE TABLE A6 AS (SELECT DISTINCT(Account_Name) FROM A5);

Table created.

SQL> SELECT * FROM A3
  2  MINUS
  3  SELECT * FROM A6;

ACCOUNT_NAME
---------------
Robert

SQL>
```