

بسم الله الرحمن الرحيم

گزارش تمرین سوم پایگاه داده پیشرفته

ریحانه گودرزی

ایجاد یک دیتابیس در postgresql

استاد : جناب آقای دکتر رشنو

آبان ۱۴۰۳

۱. ساخت دیتابیس Lorestanuniv :

۲. ایجاد کاربر مالک (owenr) :

۳. ساخت جداول خواسته شده در تمرین :

```
SQL Shell (psql)

postgres=# CREATE DATABASE Lorestanuniv WITH ENCODING = 'UTF-8' LOCALE_PROVIDER = icu ICU_LOCALE = 'fa_IR' TEMPLATE = template0;
CREATE DATABASE
postgres=# \l

      Name | Owner | Encoding | Collate | List of databases | ICU Locale | Locale Provider | Access privileges
-----
db1        | postgres | UTF8 | English_United_States.1252 | English_United_States.1252 |  | libc | 
lorestanuniv | postgres | UTF8 | English_United_States.1252 | English_United_States.1252 | fa_IR | icu | 
postgres    | postgres | UTF8 | English_United_States.1252 | English_United_States.1252 |  | libc | 
template0   | postgres | UTF8 | English_United_States.1252 | English_United_States.1252 |  | libc | =c/postgres, postgres=Ctc/postgres, =c/postgres, postgres=Ctc/postgres
template1   | postgres | UTF8 | English_United_States.1252 | English_United_States.1252 |  | libc | 
test        | postgres | UTF8 | English_United_States.1252 | English_United_States.1252 |  | libc | 
(6 rows)

postgres=# CREATE USER Saman WITH PASSWORD '1010';
ERROR: syntax error at or near "CREATE"
LINE 1: CREATE USER Saman WITH PASSWORD '1010';
        ^

postgres=# CREATE USER Saman WITH PASSWORD '1010';
CREATE ROLE
postgres=# ALTER DATABASE Lorestanuniv OWNER TO Saman;
ALTER DATABASE
postgres=# \du

      List of roles
Role name | Attributes | Member of
-----
postgres | Superuser, Create role, Create DB, Replication, Bypass RLS | {}
saman    |  | {}

postgres=# \l

      Name | Owner | Encoding | Collate | List of databases | ICU Locale | Locale Provider | Access privileges
-----
db1        | postgres | UTF8 | English_United_States.1252 | English_United_States.1252 |  | libc | 
lorestanuniv | saman | UTF8 | English_United_States.1252 | English_United_States.1252 | fa_IR | icu | 
postgres    | postgres | UTF8 | English_United_States.1252 | English_United_States.1252 |  | libc | 
template0   | postgres | UTF8 | English_United_States.1252 | English_United_States.1252 |  | libc | =c/postgres, postgres=Ctc/postgres, =c/postgres, postgres=Ctc/postgres
template1   | postgres | UTF8 | English_United_States.1252 | English_United_States.1252 |  | libc | 
test        | postgres | UTF8 | English_United_States.1252 | English_United_States.1252 |  | libc | 
(6 rows)

postgres=#
```

```
SQL Shell (psql)

Username [postgres]:
Password for user postgres:
psql (15.3)
WARNING: Console code page (437) differs from Windows code page (1252)
8-bit characters might not work correctly. See psql reference
page "Notes for Windows users" for details.
Type "help" for help.

postgres=# \c
file is unset.
postgres=# \c
You are now connected to database "postgres" as user "postgres".
postgres=# \c lorestanuniv
You are now connected to database "lorestanuniv" as user "postgres".
lorestanuniv=# CREATE TABLE PresentedCourses (CID VARCHAR REFERENCES course(CID) ON DELETE CASCADE, CName VARCHAR(10), Department VARCHAR(20), Credit INT CHECK (Credit BETWEEN 1 AND 4), LID SERIAL REFERENCES
Lecturer(LID) ON DELETE CASCADE, FName VARCHAR(10), LName VARCHAR(10), PRIMARY KEY (CID, LID));
CREATE TABLE
lorestanuniv=# \dt

      List of relations
Schema | Name | Type | Owner
-----
public | course | table | postgres
public | coursesregister | table | postgres
public | lecturer | table | postgres
public | presentedcourses | table | postgres
public | student | table | postgres
(5 rows)

lorestanuniv=#
```

#### ۴. ایجاد کاربران دیتا بیس (user) :

```
SQL Shell (psql)
ERROR: database "lorestanuniv" does not exist
lorestanuniv=# ALTER DATABASE lorestanuniv OWNER TO saman;
ALTER DATABASE
lorestanuniv=# \du

Role name |          List of roles          | Member of
-----|-----|-----
postgres | Superuser, Create role, Create DB, Replication, Bypass RLS | {}
saman    |                               | {}

lorestanuniv=# \l

      Name      | Owner   | Encoding | Collate | List of databases | ICU Locale | Locale Provider | Access privileges
-----|-----|-----|-----|-----|-----|-----|-----
db1             | postgres | UTF8      | English_United_States.1252 | English_United_States.1252 | fa_IR      | libc           |
lorestanuniv    | saman    | UTF8      | English_United_States.1252 | English_United_States.1252 | fa_IR      | libc           |
postgres        | postgres | UTF8      | English_United_States.1252 | English_United_States.1252 | fa_IR      | libc           |
template0       | postgres | UTF8      | English_United_States.1252 | English_United_States.1252 | fa_IR      | libc           |
template1       | postgres | UTF8      | English_United_States.1252 | English_United_States.1252 | fa_IR      | libc           |
test            | postgres | UTF8      | English_United_States.1252 | English_United_States.1252 | fa_IR      | libc           |
(6 rows)

lorestanuniv=# \CREATE USER sara;
invalid command \CREATE
Try \? for help.
lorestanuniv=# \CREATE USER sara WITH PASSWORD '3030';
invalid command \CREATE
Try \? for help.
lorestanuniv=# CREATE USER sara WITH PASSWORD '3030';
invalid command \CREATE
Try \? for help.
lorestanuniv=# CREATE USER sara WITH PASSWORD '3030';
invalid command \CREATE
Try \? for help.
lorestanuniv=# CREATE USER sara WITH PASSWORD '3030';
CREATE ROLE
lorestanuniv=# CREATE USER armin WITH PASSWORD '2020';
CREATE ROLE
lorestanuniv=# \du

Role name |          List of roles          | Member of
-----|-----|-----
armin     |                               | {}
postgres  | Superuser, Create role, Create DB, Replication, Bypass RLS | {}
saman     |                               | {}
sara      |                               | {}

lorestanuniv=#
```

#### ۵. Insert به جداول (ایجاد record ها) :

```
SQL Shell (psql)
saman |
sara  |

lorestanuniv=# \dt
      List of relations
 Schema | Name      | Type | Owner
-----|-----|-----|-----
public | course    | table | postgres
public | coursergister | table | postgres
public | lecturer  | table | postgres
public | presentedcourses | table | postgres
public | student   | table | postgres
(5 rows)

lorestanuniv=# INSERT INTO student (FName, LName, Father, Birth, IDS, BornCity, Address, PostalCode, CPhone, HPhone, Department, Major, Married, ID) VALUES ('ali', 'alipour', 'reza', '1370-11-02', '123456789', 'tehran', 'main st', '1234567890', '09301234567', '06612345678', 'fani mohandesi', 'computer', TRUE, '0011236547');
ERROR: syntax error at or near "INSERT"
LINE 1: INSERT INTO student (FName, LName, Father, Birth, IDS, B...
          ^

lorestanuniv=# INSERT INTO student (FName, LName, Father, Birth, IDS, BornCity, Address, PostalCode, CPhone, HPhone, Department, Major, Married, ID) VALUES ('ali', 'alipour', 'reza', '1370-11-02', '123456789', 'tehran', 'main st', '1234567890', '09301234567', '06612345678', 'fani mohandesi', 'computer', TRUE, '0011236547');
INSERT 0 1
lorestanuniv=# INSERT INTO student (FName, LName, Father, Birth, IDS, BornCity, Address, PostalCode, CPhone, HPhone, Department, Major, Married, ID) VALUES ('reza', 'rezazade', 'ali', '1372-09-10', '123456123', 'khorram abad', 'main st', '1234567234', '09165698231', '06656982314', 'fani mohandesi', 'computer', FALSE, '0022236547');
INSERT 0 1
lorestanuniv=# INSERT INTO student (FName, LName, Father, Birth, IDS, BornCity, Address, PostalCode, CPhone, HPhone, Department, Major, Married, ID) VALUES ('mari', 'manian', 'ahmad', '1373-02-17', '123456147', 'tehran', 'main st', '1234567451', '09125698785', '06656982785', 'fani mohandesi', 'computer', FALSE, '0033236547');
INSERT 0 1
lorestanuniv=# INSERT INTO student (FName, LName, Father, Birth, IDS, BornCity, Address, PostalCode, CPhone, HPhone, Department, Major, Married, ID) VALUES ('fateme', 'hashemi', 'behrouz', '1376-05-05', '123451254', 'bandar abas', 'main st', '1234566523', '09215698785', '02156982785', 'fani mohandesi', 'computer', TRUE, '0044236547');
INSERT 0 1
lorestanuniv=# SELECT * FROM student;
 stid | fname | lname | father | birth | ids | borncity | address | postalcode | cphone | hphone | department | major | married | id
-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----
 1    | ali   | alipour | reza   | 1370-11-02 | 123456789 | tehran | main st | 1234567890 | 09301234567 | 06612345678 | fani mohandesi | computer | t       | 0011236547
 2    | reza  | rezazade | ali    | 1372-09-10 | 123456123 | khorram abad | main st | 1234567234 | 09165698231 | 06656982314 | fani mohandesi | computer | f       | 0022236547
 3    | mari  | manian | ahmad  | 1373-02-17 | 123456147 | tehran | main st | 1234567451 | 09125698785 | 06656982785 | fani mohandesi | computer | f       | 0033236547
 4    | fateme | hashemi | behrouz | 1376-05-05 | 123451254 | bandar abas | main st | 1234566523 | 09215698785 | 02156982785 | fani mohandesi | computer | t       | 0044236547
(4 rows)

lorestanuniv=#
```

```
SQL Shell (psql)
public | student | table | postgres
(5 rows)

lorestanuniv=# INSERT INTO student (FName, LName, Father, Birth, IDS, BornCity, Address, PostalCode, CPhone, HPhone, Department, Major, Married, ID) VALUES ('ali', 'alipour', 'reza', '1370-11-02', '123456789', 'tehran', 'main st', '123456789', '09301234567', '06612345678', 'fani mohadesi', 'computer', TRUE, '0011236547');
ERROR: syntax error at or near "INSERT"
LINE 1: INSERT INTO student (FName, LName, Father, Birth, IDS, B...
^

lorestanuniv=# INSERT INTO student (FName, LName, Father, Birth, IDS, BornCity, Address, PostalCode, CPhone, HPhone, Department, Major, Married, ID) VALUES ('ali', 'alipour', 'reza', '1370-11-02', '123456789', 'tehran', 'main st', '123456789', '09301234567', '06612345678', 'fani mohadesi', 'computer', TRUE, '0011236547');
INSERT 0 1
lorestanuniv=# INSERT INTO student (FName, LName, Father, Birth, IDS, BornCity, Address, PostalCode, CPhone, HPhone, Department, Major, Married, ID) VALUES ('reza', 'rezazade', 'ali', '1372-09-10', '123456123', 'khorram abad', 'main st', '1234567234', '09165698231', '06656982314', 'fani mohadesi', 'computer', FALSE, '0022236547');
INSERT 0 1
lorestanuniv=# INSERT INTO student (FName, LName, Father, Birth, IDS, BornCity, Address, PostalCode, CPhone, HPhone, Department, Major, Married, ID) VALUES ('mari', 'manian', 'ahmad', '1373-02-17', '123456147', 'tabriz', 'main st', '1234567451', '09125698785', '06656982785', 'fani mohadesi', 'computer', FALSE, '0033236547');
INSERT 0 1
lorestanuniv=# INSERT INTO student (FName, LName, Father, Birth, IDS, BornCity, Address, PostalCode, CPhone, HPhone, Department, Major, Married, ID) VALUES ('fateme', 'hashemi', 'behrouz', '1376-05-05', '123451254', 'bandar abas', 'main st', '1234566523', '09215698785', '02156982785', 'fani mohadesi', 'computer', TRUE, '0044236547');
INSERT 0 1
lorestanuniv=# SELECT * FROM student;
 stid | fname | lname | father | birth | ids | borncity | address | postalcode | cphone | hphone | department | major | married | id
-----+-----+-----+-----+-----+----+-----+-----+-----+-----+-----+-----+-----+-----+-----
  1 | ali | alipour | reza | 1370-11-02 | 123456789 | tehran | main st | 123456789 | 09301234567 | 06612345678 | fani mohadesi | computer | t | 0011236547
  2 | reza | rezazade | ali | 1372-09-10 | 123456123 | khorram abad | main st | 1234567234 | 09165698231 | 06656982314 | fani mohadesi | computer | f | 0022236547
  3 | mari | manian | ahmad | 1373-02-17 | 123456147 | tabriz | main st | 1234567451 | 09125698785 | 06656982785 | fani mohadesi | computer | f | 0033236547
  4 | fateme | hashemi | behrouz | 1376-05-05 | 123451254 | bandar abas | main st | 1234566523 | 09215698785 | 02156982785 | fani mohadesi | computer | t | 0044236547
(4 rows)

lorestanuniv=# INSERT INTO lecturer (FName, LName, ID, Department, Major, Birth, BornCity, Address, PostalCode, CPhone, HPhone) VALUES ('arman', 'armani', '0071236549', 'fani mohadesi', 'riazi', '1361-09-10', 'arak', 'main st', '6815845784', '09165481212', '06633212122');
INSERT 0 1
lorestanuniv=# INSERT INTO lecturer (FName, LName, ID, Department, Major, Birth, BornCity, Address, PostalCode, CPhone, HPhone) VALUES ('mana', 'manai', '0083216549', 'fani mohadesi', 'computer', '1366-10-07', 'brujerd', 'main st', '6815842587', '09145481313', '06633214785');
INSERT 0 1
lorestanuniv=# INSERT INTO lecturer (FName, LName, ID, Department, Major, Birth, BornCity, Address, PostalCode, CPhone, HPhone) VALUES ('raha', 'rahani', '0092587413', 'fani mohadesi', 'amar', '1358-03-01', 'ghom', 'main st', '6815842519', '09305481313', '06633211476');
INSERT 0 1
lorestanuniv=# SELECT * FROM lecturer;
 lid | fname | lname | id | department | major | birth | borncity | address | postalcode | cphone | hphone
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
  1 | arman | armani | 0071236549 | fani mohadesi | riaz | 1361-09-10 | arak | main st | 6815845784 | 09165481212 | 06633212122
  2 | mana | manai | 0083216549 | fani mohadesi | computer | 1366-10-07 | brujerd | main st | 6815842587 | 09145481313 | 06633214785
  3 | raha | rahani | 0092587413 | fani mohadesi | amar | 1358-03-01 | ghom | main st | 6815842519 | 09305481313 | 06633211476
(3 rows)

lorestanuniv=#
```

```
SQL Shell (psql)
lorestanuniv=# INSERT INTO student (FName, LName, Father, Birth, IDS, BornCity, Address, PostalCode, CPhone, HPhone, Department, Major, Married, ID) VALUES ('mari', 'manian', 'ahmad', '1373-02-17', '123456147', 'tabriz', 'main st', '1234567451', '09125698785', '06656982785', 'fani mohadesi', 'computer', FALSE, '0033236547');
INSERT 0 1
lorestanuniv=# INSERT INTO student (FName, LName, Father, Birth, IDS, BornCity, Address, PostalCode, CPhone, HPhone, Department, Major, Married, ID) VALUES ('fateme', 'hashemi', 'behrouz', '1376-05-05', '123451254', 'bandar abas', 'main st', '1234566523', '09215698785', '02156982785', 'fani mohadesi', 'computer', TRUE, '0044236547');
INSERT 0 1
lorestanuniv=# SELECT * FROM student;
 stid | fname | lname | father | birth | ids | borncity | address | postalcode | cphone | hphone | department | major | married | id
-----+-----+-----+-----+-----+----+-----+-----+-----+-----+-----+-----+-----+-----+-----
  1 | ali | alipour | reza | 1370-11-02 | 123456789 | tehran | main st | 123456789 | 09301234567 | 06612345678 | fani mohadesi | computer | t | 0011236547
  2 | reza | rezazade | ali | 1372-09-10 | 123456123 | khorram abad | main st | 1234567234 | 09165698231 | 06656982314 | fani mohadesi | computer | f | 0022236547
  3 | mari | manian | ahmad | 1373-02-17 | 123456147 | tabriz | main st | 1234567451 | 09125698785 | 06656982785 | fani mohadesi | computer | f | 0033236547
  4 | fateme | hashemi | behrouz | 1376-05-05 | 123451254 | bandar abas | main st | 1234566523 | 09215698785 | 02156982785 | fani mohadesi | computer | t | 0044236547
(4 rows)

lorestanuniv=# INSERT INTO lecturer (FName, LName, ID, Department, Major, Birth, BornCity, Address, PostalCode, CPhone, HPhone) VALUES ('arman', 'armani', '0071236549', 'fani mohadesi', 'riazi', '1361-09-10', 'arak', 'main st', '6815845784', '09165481212', '06633212122');
INSERT 0 1
lorestanuniv=# INSERT INTO lecturer (FName, LName, ID, Department, Major, Birth, BornCity, Address, PostalCode, CPhone, HPhone) VALUES ('mana', 'manai', '0083216549', 'fani mohadesi', 'computer', '1366-10-07', 'brujerd', 'main st', '6815842587', '09145481313', '06633214785');
INSERT 0 1
lorestanuniv=# INSERT INTO lecturer (FName, LName, ID, Department, Major, Birth, BornCity, Address, PostalCode, CPhone, HPhone) VALUES ('raha', 'rahani', '0092587413', 'fani mohadesi', 'amar', '1358-03-01', 'ghom', 'main st', '6815842519', '09305481313', '06633211476');
INSERT 0 1
lorestanuniv=# SELECT * FROM lecturer;
 lid | fname | lname | id | department | major | birth | borncity | address | postalcode | cphone | hphone
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
  1 | arman | armani | 0071236549 | fani mohadesi | riaz | 1361-09-10 | arak | main st | 6815845784 | 09165481212 | 06633212122
  2 | mana | manai | 0083216549 | fani mohadesi | computer | 1366-10-07 | brujerd | main st | 6815842587 | 09145481313 | 06633214785
  3 | raha | rahani | 0092587413 | fani mohadesi | amar | 1358-03-01 | ghom | main st | 6815842519 | 09305481313 | 06633211476
(3 rows)

lorestanuniv=# INSERT INTO course (CID, CName, Department, Credit) VALUES ('12345', 'Riazi', 'fani mohadesi', 2);
INSERT 0 1
lorestanuniv=# INSERT INTO course (CID, CName, Department, Credit) VALUES ('67891', 'data mining', 'fani mohadesi', 3);
INSERT 0 1
lorestanuniv=# INSERT INTO course (CID, CName, Department, Credit) VALUES ('36985', 'data base', 'fani mohadesi', 3);
INSERT 0 1
lorestanuniv=# SELECT * FROM course;
 cid | cname | department | credit
-----+-----+-----+-----
 12345 | Riazi | fani mohadesi | 2
 67891 | data mining | fani mohadesi | 3
 36985 | data base | fani mohadesi | 3
(3 rows)

lorestanuniv=#
```



```
SQL Shell (psql)
lorestanuniv=# INSERT INTO student (FName, LName, Father, Birth, IDS, BornCity, Address, PostalCode, CPhone, HPhone, Department, Major, Married, ID) VALUES ('mari', 'manian', 'ahmad', '1373-02-17', '123456147', 'tabriz', 'main st', '1234567451', '09125698785', '06656982785', 'fani mohadesi', 'computer', FALSE, '0033236547');
INSERT 0 1
lorestanuniv=# INSERT INTO student (FName, LName, Father, Birth, IDS, BornCity, Address, PostalCode, CPhone, HPhone, Department, Major, Married, ID) VALUES ('fateme', 'hashemi', 'behrouz', '1376-05-05', '123451254', 'bandar abas', 'main st', '1234566523', '09215698785', '02156982785', 'fani mohadesi', 'computer', TRUE, '0044236547');
INSERT 0 1
lorestanuniv=# SELECT * FROM student;
 stid | fname | lname | father | birth | ids | borncity | address | postalcode | cphone | hphone | department | major | married | id
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
  1 | ali | alipour | reza | 1370-11-02 | 123456789 | tehran | main st | 1234567890 | 09301234567 | 06612345678 | fani mohadesi | computer | t | 0011236547
  2 | reza | rezazade | ali | 1372-09-10 | 123456123 | khorrab abad | main st | 1234567234 | 09165698231 | 06656982314 | fani mohadesi | computer | f | 0022236547
  3 | mari | manian | ahmad | 1373-02-17 | 123456147 | tabriz | main st | 1234567451 | 09125698785 | 06656982785 | fani mohadesi | computer | f | 0033236547
  4 | fateme | hashemi | behrouz | 1376-05-05 | 123451254 | bandar abas | main st | 1234566523 | 09215698785 | 02156982785 | fani mohadesi | computer | t | 0044236547
(4 rows)

lorestanuniv=# INSERT INTO lecturer (FName, LName, ID, Department, Major, Birth, BornCity, Address, PostalCode, CPhone, HPhone) VALUES ('arman', 'armani', '0071236549', 'fani mohadesi', 'riazi', '1361-09-10', 'arak', 'main st', '6815845784', '09165481212', '06633212122');
INSERT 0 1
lorestanuniv=# INSERT INTO lecturer (FName, LName, ID, Department, Major, Birth, BornCity, Address, PostalCode, CPhone, HPhone) VALUES ('mana', 'manai', '0083216549', 'fani mohadesi', 'computer', '1366-10-07', 'brujerd', 'main st', '6815842587', '09145481313', '06633214785');
INSERT 0 1
lorestanuniv=# INSERT INTO lecturer (FName, LName, ID, Department, Major, Birth, BornCity, Address, PostalCode, CPhone, HPhone) VALUES ('raha', 'rahani', '0092587413', 'fani mohadesi', 'amar', '1358-03-01', 'ghom', 'main st', '6815842519', '09305481313', '06633211476');
INSERT 0 1
lorestanuniv=# SELECT * FROM lecturer;
 lid | fname | lname | id | department | major | birth | borncity | address | postalcode | cphone | hphone
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
  1 | arman | armani | 0071236549 | fani mohadesi | riaz | 1361-09-10 | arak | main st | 6815845784 | 09165481212 | 06633212122
  2 | mana | manai | 0083216549 | fani mohadesi | computer | 1366-10-07 | brujerd | main st | 6815842587 | 09145481313 | 06633214785
  3 | raha | rahani | 0092587413 | fani mohadesi | amar | 1358-03-01 | ghom | main st | 6815842519 | 09305481313 | 06633211476
(3 rows)

lorestanuniv=# INSERT INTO course (CID, CName, Department, Credit) VALUES ('12345', 'Riazi', 'fani mohadesi', 2);
INSERT 0 1
lorestanuniv=# INSERT INTO course (CID, CName, Department, Credit) VALUES ('67891', 'data mining', 'fani mohadesi', 3);
INSERT 0 1
lorestanuniv=# INSERT INTO course (CID, CName, Department, Credit) VALUES ('36985', 'data base', 'fani mohadesi', 3);
INSERT 0 1
lorestanuniv=# SELECT * FROM course;
 cid | cname | department | credit
-----+-----+-----+-----
 12345 | Riazi | fani mohadesi | 2
 67891 | data mining | fani mohadesi | 3
 36985 | data base | fani mohadesi | 3
(3 rows)

lorestanuniv=#
```

```
SQL Shell (psql)
INSERT 0 1
lorestanuniv=# SELECT * FROM lecturer;
 lid | fname | lname | id | department | major | birth | borncity | address | postalcode | cphone | hphone
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
  1 | arman | armani | 0071236549 | fani mohadesi | riaz | 1361-09-10 | arak | main st | 6815845784 | 09165481212 | 06633212122
  2 | mana | manai | 0083216549 | fani mohadesi | computer | 1366-10-07 | brujerd | main st | 6815842587 | 09145481313 | 06633214785
  3 | raha | rahani | 0092587413 | fani mohadesi | amar | 1358-03-01 | ghom | main st | 6815842519 | 09305481313 | 06633211476
(3 rows)

lorestanuniv=# INSERT INTO course (CID, CName, Department, Credit) VALUES ('12345', 'Riazi', 'fani mohadesi', 2);
INSERT 0 1
lorestanuniv=# INSERT INTO course (CID, CName, Department, Credit) VALUES ('67891', 'data mining', 'fani mohadesi', 3);
INSERT 0 1
lorestanuniv=# INSERT INTO course (CID, CName, Department, Credit) VALUES ('36985', 'data base', 'fani mohadesi', 3);
INSERT 0 1
lorestanuniv=# SELECT * FROM course;
 cid | cname | department | credit
-----+-----+-----+-----
 12345 | Riazi | fani mohadesi | 2
 67891 | data mining | fani mohadesi | 3
 36985 | data base | fani mohadesi | 3
(3 rows)

lorestanuniv=# INSERT INTO coursereregister (CID, CName, Department, Credit, FName, LName) VALUES ('12345', 'Riazi', 'fani mohadesi', 2);
ERROR: INSERT has more target columns than expressions
LINE 1: ...ureregister (CID, CName, Department, Credit, FName, LN...
                                ^

lorestanuniv=# INSERT INTO coursereregister (CID, CName, Department, Credit, FName, LName) VALUES ('12345', 'Riazi', 'fani mohadesi', 2, 'mary', 'mani');
INSERT 0 1
lorestanuniv=# INSERT INTO coursereregister (CID, CName, Department, Credit, FName, LName) VALUES ('36985', 'data base', 'fani mohadesi', 3, 'reza', 'rezazade');
INSERT 0 1
lorestanuniv=# INSERT INTO coursereregister (CID, CName, Department, Credit, FName, LName) VALUES ('36985', 'data base', 'fani mohadesi', 3, 'ali', 'alipour');
INSERT 0 1
lorestanuniv=# INSERT INTO coursereregister (CID, CName, Department, Credit, FName, LName) VALUES ('67891', 'data mining', 'fani mohadesi', 3, 'ali', 'alipour');
ERROR: value too long for type character varying(10)
lorestanuniv=# INSERT INTO coursereregister (CID, CName, Department, Credit, FName, LName) VALUES ('67891', 'data mining', 'fani mohadesi', 3, 'mary', 'mani');
ERROR: value too long for type character varying(10)
lorestanuniv=# INSERT INTO coursereregister (CID, CName, Department, Credit, FName, LName) VALUES ('67891', 'data mining', 'fani mohadesi', 3, 'mary', 'mani');
ERROR: value too long for type character varying(10)
lorestanuniv=# SELECT * FROM coursereregister;
 cid | cname | department | credit | sid | fname | lname
-----+-----+-----+-----+-----+-----+-----
 12345 | Riazi | fani mohadesi | 2 | 1 | mary | mani
 36985 | data base | fani mohadesi | 3 | 2 | reza | rezazade
 36985 | data base | fani mohadesi | 3 | 3 | ali | alipour
(3 rows)
```

```
SQL Shell (psql)
DETAIL: Key (sid)=(5) is not present in table "student".
lorestanuniv=#
lorestanuniv=#
lorestanuniv=#
lorestanuniv=#
lorestanuniv=#
lorestanuniv=#
lorestanuniv=# SELECT * FROM coursesregister;
cid | cname | department | credit | sid | fname | lname
-----
12345 | Riazi | fani mohandesi | 2 | 1 | mary | mani
36985 | data base | fani mohandesi | 3 | 2 | reza | rezazade
36985 | data base | fani mohandesi | 3 | 3 | ali | alipour
67891 | datamining | fani mohandesi | 3 | 4 | mary | mani
(4 rows)

lorestanuniv=#
lorestanuniv=#
```

```
SQL Shell (psql)
DETAIL: Key (sid)=(5) is not present in table "student".
lorestanuniv=#
lorestanuniv=#
lorestanuniv=#
lorestanuniv=#
lorestanuniv=#
lorestanuniv=#
lorestanuniv=# SELECT * FROM coursesregister;
cid | cname | department | credit | sid | fname | lname
-----
12345 | Riazi | fani mohandesi | 2 | 1 | mary | mani
36985 | data base | fani mohandesi | 3 | 2 | reza | rezazade
36985 | data base | fani mohandesi | 3 | 3 | ali | alipour
67891 | datamining | fani mohandesi | 3 | 4 | mary | mani
(4 rows)

lorestanuniv=#
lorestanuniv=# INSERT INTO presentedcourses (CID , CName , Department , Credit , FName , LName) VALUES ('67891' , 'data mining' , 'fani mohandesi' , 3 , 'raha' , 'rahani');
ERROR: value too long for type character varying(10)
lorestanuniv=# INSERT INTO presentedcourses (CID , CName , Department , Credit , FName , LName) VALUES ('67891' , 'datamining' , 'fani mohandesi' , 3 , 'raha' , 'rahani');
INSERT 0 1
lorestanuniv=# INSERT INTO presentedcourses (CID , CName , Department , Credit , FName , LName) VALUES ('67891' , 'data base' , 'fani mohandesi' , 3 , 'arman' , 'armani');
INSERT 0 1
lorestanuniv=# INSERT INTO presentedcourses (CID , CName , Department , Credit , FName , LName) VALUES ('12345' , 'Riazi' , 'fani mohandesi' , 2 , 'mana' , 'manai');
INSERT 0 1
lorestanuniv=# UPDATE TABLE presentedcourses SET COLUMN
lorestanuniv=# ;
ERROR: syntax error at or near "COLUMN"
LINE 1: UPDATE TABLE presentedcourses SET COLUMN
                                     ^
lorestanuniv=# SELECT * FROM presentedcourses;
cid | cname | department | credit | lid | fname | lname
-----
67891 | datamining | fani mohandesi | 3 | 1 | raha | rahani
67891 | data base | fani mohandesi | 3 | 2 | arman | armani
12345 | Riazi | fani mohandesi | 2 | 3 | mana | manai
(3 rows)

lorestanuniv=#
```

## ۶. تست دستورات حذف و به روزرسانی روی جداول (delete , update) :

```
SQL Shell (psql)
lorestanuniv=#
lorestanuniv=#
lorestanuniv=#
lorestanuniv=#
lorestanuniv=#
lorestanuniv=# SELECT * FROM courseregister;
cid | cname | department | credit | sid | fname | lname
-----+-----+-----+-----+-----+-----+-----
12345 | Riazi | fani mohadesi | 2 | 1 | mary | mani
36985 | data base | fani mohadesi | 3 | 2 | reza | rezazade
36985 | data base | fani mohadesi | 3 | 3 | ali | alipour
67891 | datamining | fani mohadesi | 3 | 4 | mary | mani
(4 rows)

lorestanuniv=#
lorestanuniv=# INSERT INTO presentedcourses (CID, CName, Department, Credit, FName, LName) VALUES ('67891', 'data mining', 'fani mohadesi', 3, 'raha', 'rahani');
ERROR: value too long for type character varying(10)
lorestanuniv=# INSERT INTO presentedcourses (CID, CName, Department, Credit, FName, LName) VALUES ('67891', 'datamining', 'fani mohadesi', 3, 'raha', 'rahani');
INSERT 0 1
lorestanuniv=# INSERT INTO presentedcourses (CID, CName, Department, Credit, FName, LName) VALUES ('67891', 'data base', 'fani mohadesi', 3, 'arman', 'armani');
INSERT 0 1
lorestanuniv=# INSERT INTO presentedcourses (CID, CName, Department, Credit, FName, LName) VALUES ('12345', 'Riazi', 'fani mohadesi', 2, 'mana', 'manai');
INSERT 0 1
lorestanuniv=# UPDATE TABLE presentedcourses SET COLUMN
lorestanuniv=# ;
ERROR: syntax error at or near "COLUMN"
LINE 1: UPDATE TABLE presentedcourses SET COLUMN
^
lorestanuniv=# SELECT * FROM presentedcourses;
cid | cname | department | credit | lid | fname | lname
-----+-----+-----+-----+-----+-----+-----
67891 | datamining | fani mohadesi | 3 | 1 | raha | rahani
67891 | data base | fani mohadesi | 3 | 2 | arman | armani
12345 | Riazi | fani mohadesi | 2 | 3 | mana | manai
(3 rows)

lorestanuniv=# DELETE FROM presentedcourses WHERE LID = 2;
DELETE 1
lorestanuniv=# SELECT * FROM presentedcourses;
cid | cname | department | credit | lid | fname | lname
-----+-----+-----+-----+-----+-----+-----
67891 | datamining | fani mohadesi | 3 | 1 | raha | rahani
12345 | Riazi | fani mohadesi | 2 | 3 | mana | manai
(2 rows)

lorestanuniv=#
```

```
SQL Shell (psql)
lorestanuniv=# GRANT ALL PRIVILEGES ON ALL TABLES IN SCHEMA PUBLIC TO saman;
GRANT
lorestanuniv=# GRANT ALL PRIVILEGES ON SCHEMA PUBLIC TO saman;
GRANT
lorestanuniv=# GRANT SELECT ON ALL TABLES IN SCHEMA PUBLIC TO armin;
GRANT
lorestanuniv=# ALTER DEFAULT PRIVILEGES IN SCHEMA PUBLIC GRANT SELECT ON TABLES TO armin;
ERROR: syntax error at or near "TABLES"
LINE 1: ...FAULT PRIVILEGES IN SCHEMA PUBLIC GRANT SELECT ON TABLES TO...
^
lorestanuniv=# ALTER DEFAULT PRIVILEGES IN SCHEMA PUBLIC GRANT SELECT ON TABLES TO armin;
ALTER DEFAULT PRIVILEGES
lorestanuniv=# GRANT SELECT ON ALL TABLES IN SCHEMA PUBLIC TO sara;
GRANT
lorestanuniv=# GRANT INSERT, UPDATE, DELETE ON student TO sara;
GRANT
lorestanuniv=# ALTER DEFAULT PRIVILEGES IN SCHEMA PUBLIC GRANT SELECT ON TABLES TO sara;
ALTER DEFAULT PRIVILEGES
lorestanuniv=# \du

```

Role name	List of roles	Member of
armin		{ }
postgres	Superuser, Create role, Create DB, Replication, Bypass RLS	{ }
saman		{ }
sara		{ }

```

lorestanuniv=# SELECT * FROM STUDENT;
stid | fname | lname | father | birth | ids | borncity | address | postalcode | cphone | hphone | department | major | married | id
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
2 | reza | rezazade | ali | 1372-09-10 | 123456123 | khorram abad | main st | 1234567234 | 09165698231 | 06656982314 | fani mohadesi | computer | f | 0022236547
4 | reyhane | hashemi | behrouz | 1376-05-05 | 123451254 | bandar abas | main st | 1234566523 | 09215698785 | 02156982785 | fani mohadesi | computer | t | 0044236547
1 | ali | alipour | alireza | 1370-11-02 | 123456789 | tehran | main st | 1234567890 | 09301234567 | 06612345678 | fani mohadesi | computer | t | 0011236547
3 | marl | manian | ahmad | 1373-02-17 | 123456147 | shiraz | main st | 1234567451 | 09125698785 | 06656982785 | fani mohadesi | computer | f | 0033236547
(4 rows)

lorestanuniv=# DELETE FROM student WHERE fname = 'mari';
DELETE 1
lorestanuniv=# SELECT * FROM STUDENT;
stid | fname | lname | father | birth | ids | borncity | address | postalcode | cphone | hphone | department | major | married | id
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
2 | reza | rezazade | ali | 1372-09-10 | 123456123 | khorram abad | main st | 1234567234 | 09165698231 | 06656982314 | fani mohadesi | computer | f | 0022236547
4 | reyhane | hashemi | behrouz | 1376-05-05 | 123451254 | bandar abas | main st | 1234566523 | 09215698785 | 02156982785 | fani mohadesi | computer | t | 0044236547
1 | ali | alipour | alireza | 1370-11-02 | 123456789 | tehran | main st | 1234567890 | 09301234567 | 06612345678 | fani mohadesi | computer | t | 0011236547
(3 rows)

lorestanuniv=#
```

```
SQL Shell (psql)

67891 | datamining | fani mohadesi | 3 | 1 | raha | rahani
67891 | data base | fani mohadesi | 3 | 2 | arman | armani
12345 | Riaz | fani mohadesi | 2 | 3 | mana | manai
(3 rows)

lorestanuniv=# DELETE FROM presentedcourses WHERE LID = 2;
DELETE 1
lorestanuniv=# SELECT * FROM presentedcourses;
cid | cname | department | credit | lid | fname | lname
-----+-----+-----+-----+-----+-----+-----
67891 | datamining | fani mohadesi | 3 | 1 | raha | rahani
12345 | Riaz | fani mohadesi | 2 | 3 | mana | manai
(2 rows)

lorestanuniv=# INSERT INTO presentedcourses (CID , CName , Department , Credit , FName , LName) VALUES ('36985' , 'data base' , 'fani mohadesi' , 3 , 'arman' , 'armani');
ERROR: insert or update on table "presentedcourses" violates foreign key constraint "presentedcourses_lid_fkey"
DETAIL: Key (lid)=(4) is not present in table "lecturer".
lorestanuniv=#
lorestanuniv=#
lorestanuniv=# SELECT * FROM STUDENT;
stid | fname | lname | father | birth | ids | borncity | address | postalcode | cphone | hphone | department | major | married | id
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
1 | ali | alipour | reza | 1370-11-02 | 123456789 | tehran | main st | 1234567890 | 09301234567 | 06612345678 | fani mohadesi | computer | t | 0011236547
2 | reza | rezazade | ali | 1372-09-10 | 123456123 | khorram abad | main st | 1234567234 | 09165698231 | 06656982314 | fani mohadesi | computer | f | 0022236547
3 | mari | manian | ahmad | 1373-02-17 | 123456147 | shiraz | main st | 1234567451 | 09125698785 | 06656982785 | fani mohadesi | computer | f | 0033236547
4 | fateme | hashemi | behrouz | 1376-05-05 | 123451254 | bandar abas | main st | 1234566523 | 09215698785 | 02156982785 | fani mohadesi | computer | t | 0044236547
(4 rows)

lorestanuniv=# UPDATE student SET FName = 'reyhane' WHERE FName = 'fateme';
UPDATE 1
lorestanuniv=# UPDATE student SET father = 'alireza' WHERE FName = 'ali';
UPDATE 1
lorestanuniv=# UPDATE student SET borncity = 'shiraz' WHERE borncity = 'tabriz';
UPDATE 1
lorestanuniv=# SELECT * FROM STUDENT;
stid | fname | lname | father | birth | ids | borncity | address | postalcode | cphone | hphone | department | major | married | id
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
2 | reza | rezazade | ali | 1372-09-10 | 123456123 | khorram abad | main st | 1234567234 | 09165698231 | 06656982314 | fani mohadesi | computer | f | 0022236547
1 | reyane | hashemi | behrouz | 1376-05-05 | 123451254 | bandar abas | main st | 1234566523 | 09215698785 | 02156982785 | fani mohadesi | computer | t | 0044236547
1 | ali | alipour | alireza | 1370-11-02 | 123456789 | tehran | main st | 1234567890 | 09301234567 | 06612345678 | fani mohadesi | computer | t | 0011236547
3 | mari | manian | ahmad | 1373-02-17 | 123456147 | shiraz | main st | 1234567451 | 09125698785 | 06656982785 | fani mohadesi | computer | f | 0033236547
(4 rows)

lorestanuniv=#
```

## ۷. ایجاد مجوز ها و سطح دسترسی کاربران دیتا بیس (grant):

```
SQL Shell (psql)

UPDATE 1
lorestanuniv=# SELECT * FROM STUDENT;
stid | fname | lname | father | birth | ids | borncity | address | postalcode | cphone | hphone | department | major | married | id
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
2 | reza | rezazade | ali | 1372-09-10 | 123456123 | khorram abad | main st | 1234567234 | 09165698231 | 06656982314 | fani mohadesi | computer | f | 0022236547
4 | reyane | hashemi | behrouz | 1376-05-05 | 123451254 | bandar abas | main st | 1234566523 | 09215698785 | 02156982785 | fani mohadesi | computer | t | 0044236547
1 | ali | alipour | alireza | 1370-11-02 | 123456789 | tehran | main st | 1234567890 | 09301234567 | 06612345678 | fani mohadesi | computer | t | 0011236547
3 | mari | manian | ahmad | 1373-02-17 | 123456147 | shiraz | main st | 1234567451 | 09125698785 | 06656982785 | fani mohadesi | computer | f | 0033236547
(4 rows)

lorestanuniv=# \du

List of roles
Role name | Attributes | Member of
-----+-----+-----
armin | | {}
postgres | Superuser, Create role, Create DB, Replication, Bypass RLS | {}
saman | | {}
sara | | {}

lorestanuniv=# GRANT ALL PRIVILEGES ON ALL TABLES IN SCHEMA PUBLIC TO saman;
GRANT
lorestanuniv=# GRANT ALL PRIVILEGES ON SCHEMA PUBLIC TO saman;
GRANT
lorestanuniv=# GRANT SELECT ON ALL TABLES IN SCHEMA PUBLIC TO armin;
GRANT
lorestanuniv=# ALTER DEFAULT PRIVILEGES IN SCHEMA PUBLIC GRANT SELECT ON TABLES TO armin;
ERROR: syntax error at or near "TABLES"
LINE 1: ...FAULT PRIVILEGES IN SCHEMA PUBLIC GRANT SELECT ON TABLES TO...
^

lorestanuniv=# ALTER DEFAULT PRIVILEGES IN SCHEMA PUBLIC GRANT SELECT ON TABLES TO armin;
ALTER DEFAULT PRIVILEGES
lorestanuniv=# GRANT SELECT ON ALL TABLES IN SCHEMA PUBLIC TO sara;
GRANT
lorestanuniv=# GRANT INSERT , UPDATE , DELETE ON student TO sara;
GRANT
lorestanuniv=# ALTER DEFAULT PRIVILEGES IN SCHEMA PUBLIC GRANT SELECT ON TABLES TO sara;
ALTER DEFAULT PRIVILEGES
lorestanuniv=# \du

List of roles
Role name | Attributes | Member of
-----+-----+-----
armin | | {}
postgres | Superuser, Create role, Create DB, Replication, Bypass RLS | {}
saman | | {}
sara | | {}

lorestanuniv=#
```



۸. ایجاد نقاط savepoint و rollback برای تراکنش ها با استفاده از دستورات begin و commit:

```
SQL Shell (psql)
Server [localhost]:
Database [postgres]:
Port [5432]:
Username [postgres]:
Password for user postgres:
psql (15.3)
WARNING: Console code page (437) differs from windows code page (1252)
8-bit characters might not work correctly. See psql reference
page "Notes for Windows users" for details.
Type "help" for help.

lorestanuniv=# \c
You are now connected to database "postgres" as user "postgres".
lorestanuniv=# \c lorestanuniv;
You are now connected to database "lorestanuniv" as user "postgres".
lorestanuniv=# SELECT * FROM course;
cid | cname | department | credit
-----
12345 | Riazl | fani mohadesi | 2
67891 | data mining | fani mohadesi | 3
36985 | data base | fani mohadesi | 3
(3 rows)

lorestanuniv=# BEGIN;
BEGIN
lorestanuniv=# SAVEPOINT course_delete;
SAVEPOINT
lorestanuniv=# DELETE FROM course WHERE CName = 'Riazl';
DELETE 1
lorestanuniv=# ROLLBACK TO SAVEPOINT course_delete;
ROLLBACK
lorestanuniv=# SAVEPOINT Course_Register_delete;
SAVEPOINT
lorestanuniv=# DELETE FROM CourseRegister WHERE CID = '12345';
DELETE 1
lorestanuniv=# ROLLBACK TO SAVEPOINT Course_Register_delete;
ROLLBACK
lorestanuniv=# SAVEPOINT Presented_Courses_delete;
SAVEPOINT
lorestanuniv=# DELETE FROM PresentedCourses WHERE CID = '12345';
DELETE 1
lorestanuniv=# ROLLBACK TO SAVEPOINT Presented_Courses_delete;
ROLLBACK
lorestanuniv=# COMMIT;
COMMIT
lorestanuniv=#
```

۹. ورود به دیتا بیس lorestanuniv با user های دیتا بیس و تست سطوح دسترسی آنها:

تست دسترسی کاربر سامان (admin):

```
SQL Shell (psql)
Server [localhost]:
Database [postgres]:
Port [5432]:
Username [postgres]: saman
Password for user saman:
psql (15.3)
WARNING: Console code page (437) differs from windows code page (1252)
8-bit characters might not work correctly. See psql reference
page "Notes for Windows users" for details.
Type "help" for help.

lorestanuniv=# \c lorestanuniv
You are now connected to database "lorestanuniv" as user "saman".
lorestanuniv=# INSERT INTO course (CID, CName, Department, Credit) VALUES ('65432', 'algorithm', 'fani mohadesi', '2');
INSERT 0 1
lorestanuniv=# INSERT INTO student (FName, LName, Father, Birth, IDS, BornCity, Address, PostalCode, CPhone, HPhone, Department, Major, Married, ID) VALUES ('mahsa', 'saket', 'ahmad', '1374-07-10', '123456789', 'brj', '12 st', '1230456078', '09169845612', '06641203658', 'fani mohadesi', 'electricity', FALSE, '0088965412');
ERROR: permission denied for sequence student_std_seq
lorestanuniv=# INSERT INTO course (CID, CName, Department, Credit) VALUES ('65441', 'network', 'fani mohadesi', '2');
INSERT 0 1
lorestanuniv=# DELETE FROM course WHERE CID = '65441';
DELETE 1
lorestanuniv=# SELECT * FROM course;
cid | cname | department | credit
-----
12345 | Riazl | fani mohadesi | 2
67891 | data mining | fani mohadesi | 3
36985 | data base | fani mohadesi | 3
54321 | AI | fani mohadesi | 4
65432 | algorithm | fani mohadesi | 2
(5 rows)

lorestanuniv=# INSERT INTO course (CID, CName, Department, Credit) VALUES ('65441', 'network', 'fani mohadesi', '2');
INSERT 0 1
lorestanuniv=# SELECT * FROM course;
cid | cname | department | credit
-----
12345 | Riazl | fani mohadesi | 2
67891 | data mining | fani mohadesi | 3
36985 | data base | fani mohadesi | 3
54321 | AI | fani mohadesi | 4
65432 | algorithm | fani mohadesi | 2
65441 | network | fani mohadesi | 2
(6 rows)

lorestanuniv=# DELETE FROM course WHERE CID = '65441';
DELETE 1
lorestanuniv=# SELECT * FROM course;
```

```
SQL Shell (psql)
65432 | algorithm | fani mohandesi | 2
(5 rows)

lorestanuniv-> INSERT INTO course (CID , CName , Department , Credit) VALUES ('65441' , 'network' , 'fani mohandesi' , '2');
INSERT 0 1
lorestanuniv-> SELECT * FROM course;
cid | cname | department | credit
-----
12345 | Riazi | fani mohandesi | 2
67891 | data mining | fani mohandesi | 3
36985 | data base | fani mohandesi | 3
54321 | AI | fani mohandesi | 4
65432 | algorithm | fani mohandesi | 2
65441 | network | fani mohandesi | 2
(6 rows)

lorestanuniv-> DELETE FROM course WHERE CID = '65441';
DELETE 1
lorestanuniv-> SELECT * FROM course;
cid | cname | department | credit
-----
12345 | Riazi | fani mohandesi | 2
67891 | data mining | fani mohandesi | 3
36985 | data base | fani mohandesi | 3
54321 | AI | fani mohandesi | 4
65432 | algorithm | fani mohandesi | 2
(5 rows)

lorestanuniv-> SELECT * FROM lecturer;
lid | fname | lname | id | department | major | birth | borncity | address | postalcode | cphone | hphone
-----
1 | arman | armani | 6071236549 | fani mohandesi | riazi | 1361-09-10 | arak | main st | 6815845784 | 09165481212 | 06633212122
2 | mana | manai | 6083216549 | fani mohandesi | computer | 1366-10-07 | brujerd | main st | 6815842567 | 09145481313 | 06633214785
3 | raha | rahani | 6092587413 | fani mohandesi | amir | 1358-03-01 | ghom | main st | 6815842519 | 09305481313 | 06633211476
(3 rows)

lorestanuniv-> SELECT * FROM PresentedCourses;
cid | cname | department | credit | lid | fname | lname
-----
67891 | datamining | fani mohandesi | 3 | 1 | raha | rahani
12345 | Riazi | fani mohandesi | 2 | 3 | mana | manai
(2 rows)

lorestanuniv->
```

```
SQL Shell (psql)

lorestanuniv-> SELECT * FROM PresentedCourses;
cid | cname | department | credit | lid | fname | lname
-----
67891 | datamining | fani mohandesi | 3 | 1 | raha | rahani
12345 | Riazi | fani mohandesi | 2 | 3 | mana | manai
(2 rows)

lorestanuniv-> UPDATE PresentedCourses SET cname = 'Algebra' WHERE cname = 'Riazi';
UPDATE 1
lorestanuniv-> SELECT * FROM PresentedCourses;
cid | cname | department | credit | lid | fname | lname
-----
67891 | datamining | fani mohandesi | 3 | 1 | raha | rahani
12345 | Algebra | fani mohandesi | 2 | 3 | mana | manai
(2 rows)

lorestanuniv->
```

## تست دسترسی کاربر سارا:

```
SQL Shell (psql)
Server [localhost]:
Database [postgres]:
Port [5432]:
Username [postgres]: sara
Password for user sara:
psql (15.3)
WARNING: Console code page (437) differs from windows code page (1252)
8-bit characters might not work correctly. See psql reference
page "Notes for Windows users" for details.
Type "help" for help.

postgres=> \c lorestanuniv
You are now connected to database "lorestanuniv" as user "sara".
lorestanuniv=> INSERT INTO course (CID, CName, Department, Credit) VALUES ('14528', 'algebra', 'fani mohandesi', '3');
ERROR: permission denied for table course
lorestanuniv=> INSERT INTO student (FName, LName, Father, Birth, IDS, BornCity, Address, PostalCode, CPhone, HPhone, Department, Major, Married, ID) VALUES ('mohammad', 'rezaei', 'hossein', '1369-09-15', '123456789', 'sari', '415 street', '0123456987', '09158974125', '09912365408', 'fani mohandesi', 'literture', TRUE, '0086547891');
ERROR: permission denied for sequence student_stid_seq
lorestanuniv=>
```

## تست دسترسی کاربر آرمن:

```
Select SQL Shell (psql)
Server [localhost]:
Database [postgres]:
Port [5432]:
Username [postgres]: armin
Password for user armin:
psql (15.3)
WARNING: Console code page (437) differs from windows code page (1252)
8-bit characters might not work correctly. See psql reference
page "Notes for Windows users" for details.
Type "help" for help.

postgres=> \c lorestanuniv
You are now connected to database "lorestanuniv" as user "armin".
lorestanuniv=> INSERT INTO course (CID, CName, Department, Credit) VALUES ('65436', 'algorithm', 'fani mohandesi', '3');
ERROR: permission denied for table course
lorestanuniv=> SELECT * FROM student;
 stid | fname | lname | father | birth | ids | borncity | address | postalcode | cphone | hphone | department | major | married | id
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
  2 | reza | rezade | ali | 1372-09-10 | 123456123 | khorram abad | main st | 1234567234 | 09105698231 | 06656982314 | fani mohandesi | computer | f | 0022236547
  4 | reyhane | hashemi | behrouz | 1376-05-05 | 123451254 | bandar abas | main st | 1234560523 | 09215698785 | 02156982785 | fani mohandesi | computer | t | 0044236547
  1 | ali | alipour | alireza | 1370-11-02 | 123456789 | tehran | main st | 1234567890 | 09301234567 | 06612345678 | fani mohandesi | computer | t | 0011236547
  5 | reza | hatami | ahmad | 1372-09-10 | 123456789 | brojerd | 124 street | 1020304050 | 09161234567 | 06649876543 | fani mohandesi | computer | f | 4861254789
(4 rows)

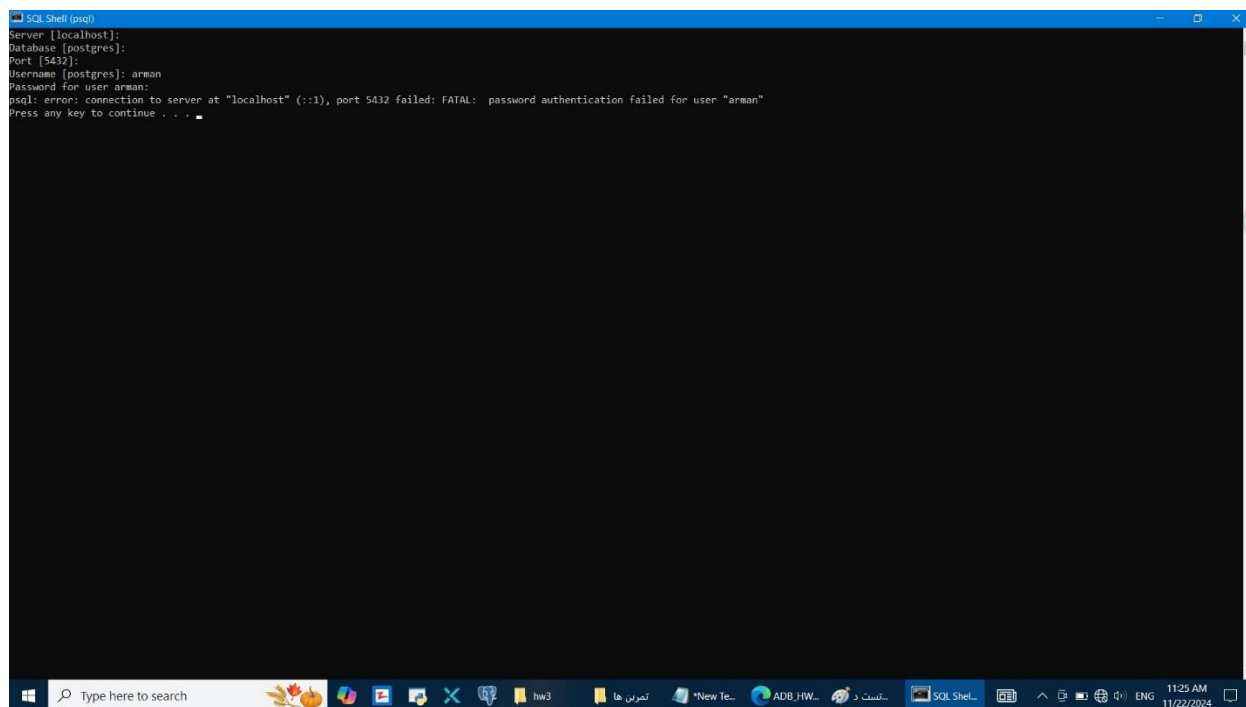
lorestanuniv=> SELECT * FROM course;
 cid | cname | department | credit
-----+-----+-----+-----
 12345 | Riazzi | fani mohandesi | 2
 67891 | data mining | fani mohandesi | 3
 36905 | data base | fani mohandesi | 3
 54321 | AI | fani mohandesi | 4
(4 rows)

lorestanuniv=> SELECT * FROM lecturer;
 lid | fname | lname | id | department | major | birth | borncity | address | postalcode | cphone | hphone
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
  1 | arman | armani | 0071236549 | fani mohandesi | riazzi | 1361-09-10 | arak | main st | 6815845784 | 09165481212 | 06633212122
  2 | mana | manai | 0083216549 | fani mohandesi | computer | 1366-10-07 | brujerd | main st | 6815842587 | 09145481313 | 06633214785
  3 | raha | rahani | 0092587413 | fani mohandesi | amar | 1358-03-01 | ghom | main st | 6815842519 | 09305481313 | 06633211476
(3 rows)

lorestanuniv=>
```

۱۰. تست ورود به دیتابیس با یک کاربر غیر مجاز ( user تعریف نشده در دیتابیس مورد نظر):

خطا مشاهده شد و اجازه ورود به این کاربر داده نمیشود.



```
SQL Shell (psql)
Server [localhost]:
Database [postgres]:
Port [5432]:
Username [postgres]: arman
Password for user arman:
psql: error: connection to server at "localhost" (::1), port 5432 failed: FATAL: password authentication failed for user "arman"
Press any key to continue . . .
```