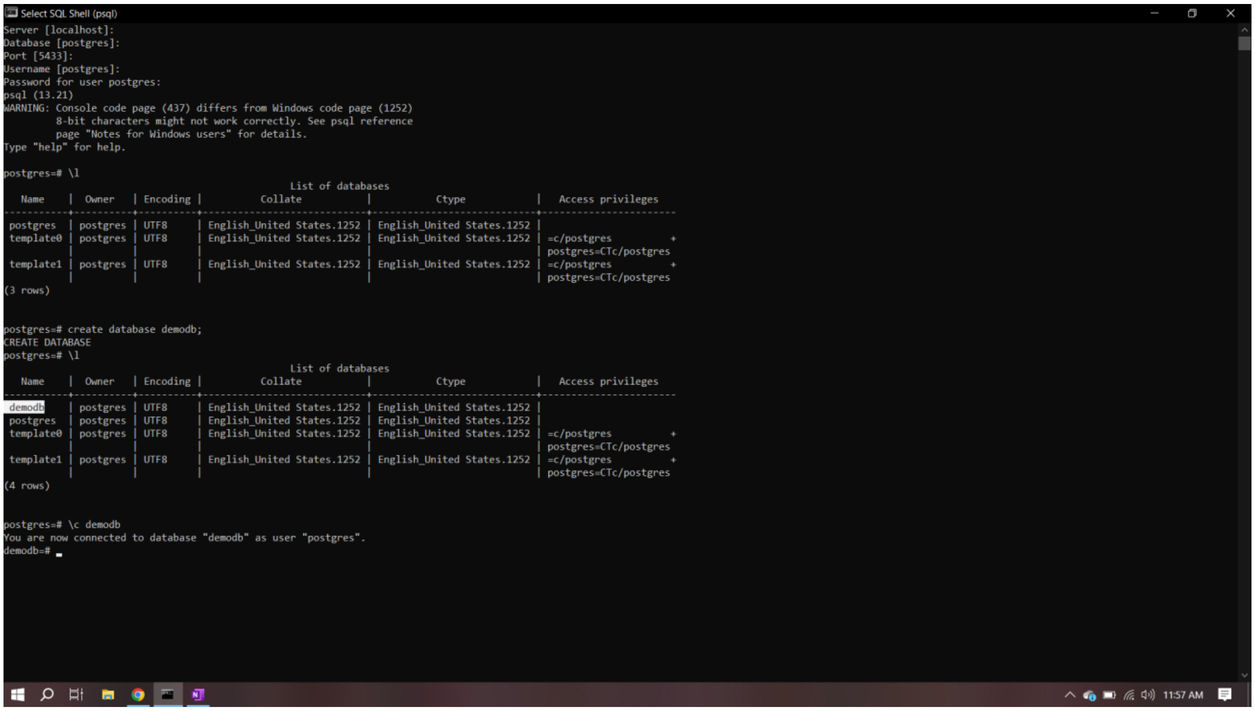
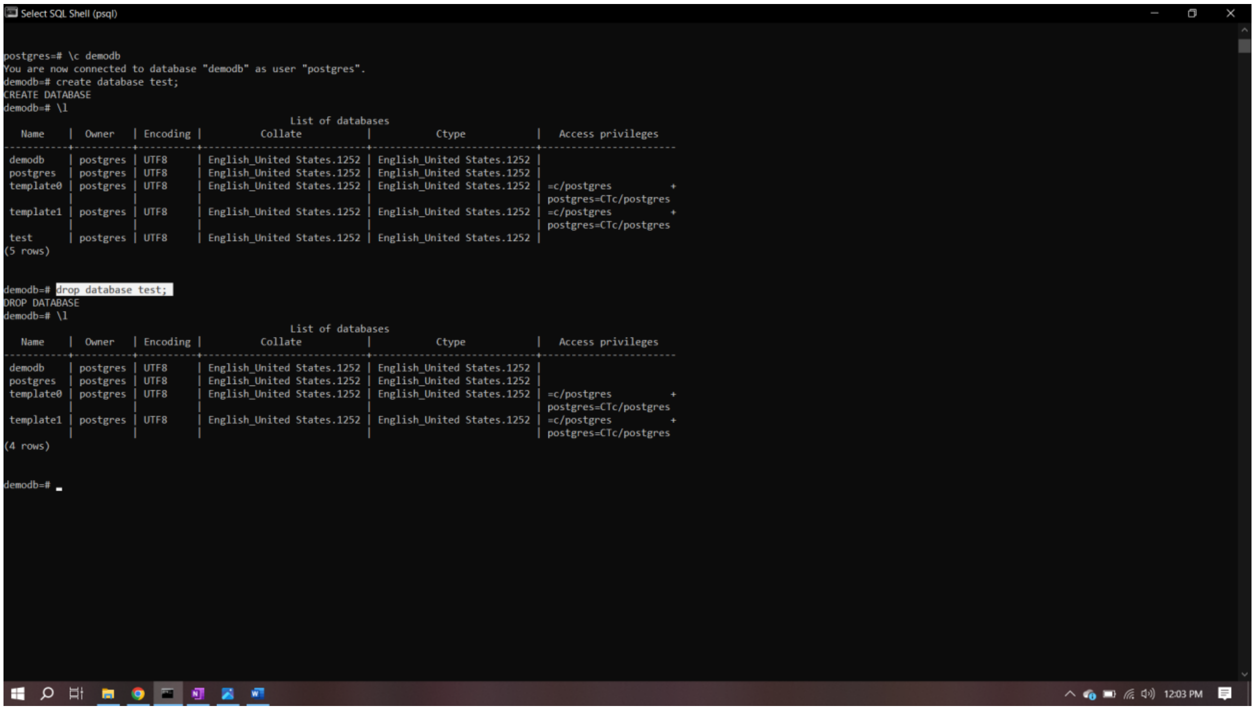
Assignment-7

CREATING A DATABASE:-



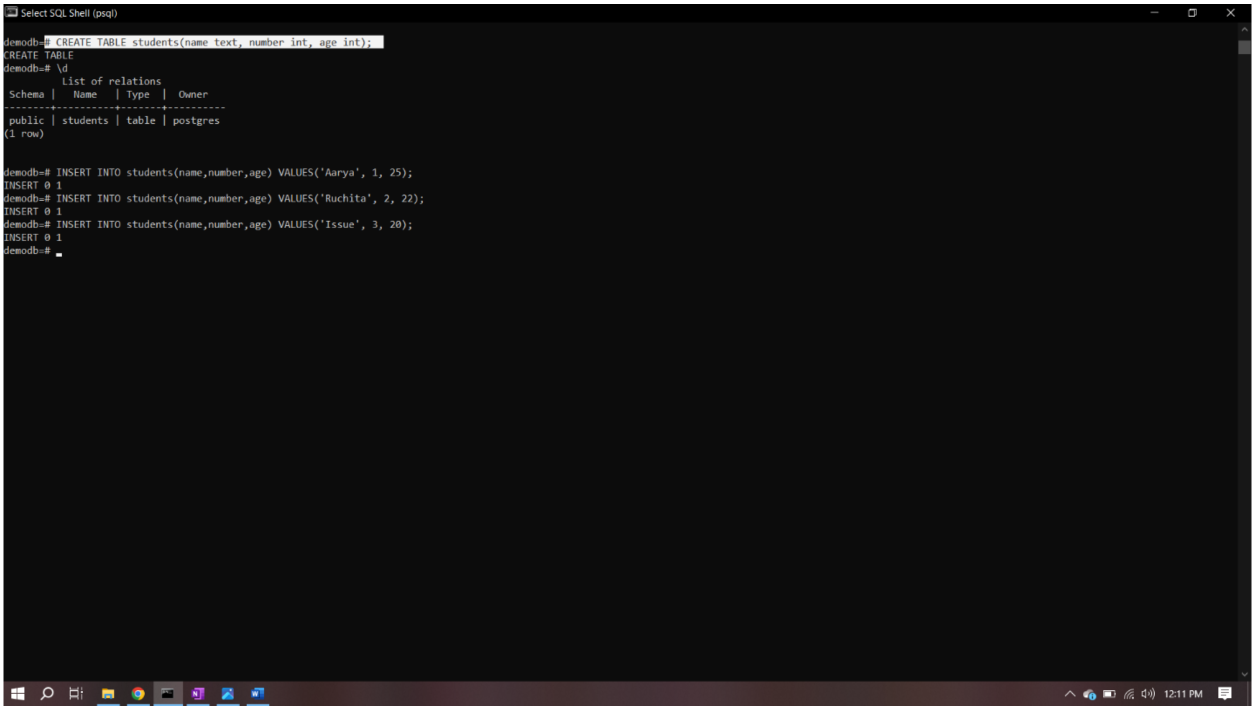
```
Server [localhost]:
Database [postgres]:
Port [5433]:
Username [postgres]:
Password for user postgres:
psql (13.21)
WARNING: Console code page (437) differs from Windows code page (1252)
         8-bit characters might not work correctly. See psql reference
         page "Notes for Windows users" for details.
Type "help" for help.

postgres=# \l
                                             List of databases
   Name    |  Owner   | Encoding |          Collate           |           Ctype            |   Access privileges
-----------+----------+----------+----------------------------+----------------------------+-----------------------
 postgres  | postgres | UTF8     | English_United States.1252 | English_United States.1252 |
 template0 | postgres | UTF8     | English_United States.1252 | English_United States.1252 | =c/postgres          +
           |          |          |                            |                            | postgres=CTc/postgres
 template1 | postgres | UTF8     | English_United States.1252 | English_United States.1252 | =c/postgres          +
           |          |          |                            |                            | postgres=CTc/postgres
(3 rows)


postgres=# create database demodb;
CREATE DATABASE
postgres=# \l
                                             List of databases
   Name    |  Owner   | Encoding |          Collate           |           Ctype            |   Access privileges
-----------+----------+----------+----------------------------+----------------------------+-----------------------
 demodb    | postgres | UTF8     | English_United States.1252 | English_United States.1252 |
 postgres  | postgres | UTF8     | English_United States.1252 | English_United States.1252 |
 template0 | postgres | UTF8     | English_United States.1252 | English_United States.1252 | =c/postgres          +
           |          |          |                            |                            | postgres=CTc/postgres
 template1 | postgres | UTF8     | English_United States.1252 | English_United States.1252 | =c/postgres          +
           |          |          |                            |                            | postgres=CTc/postgres
(4 rows)


postgres=# \c demodb
You are now connected to database "demodb" as user "postgres".
demodb=#
```

DELETING A DATABASE:-



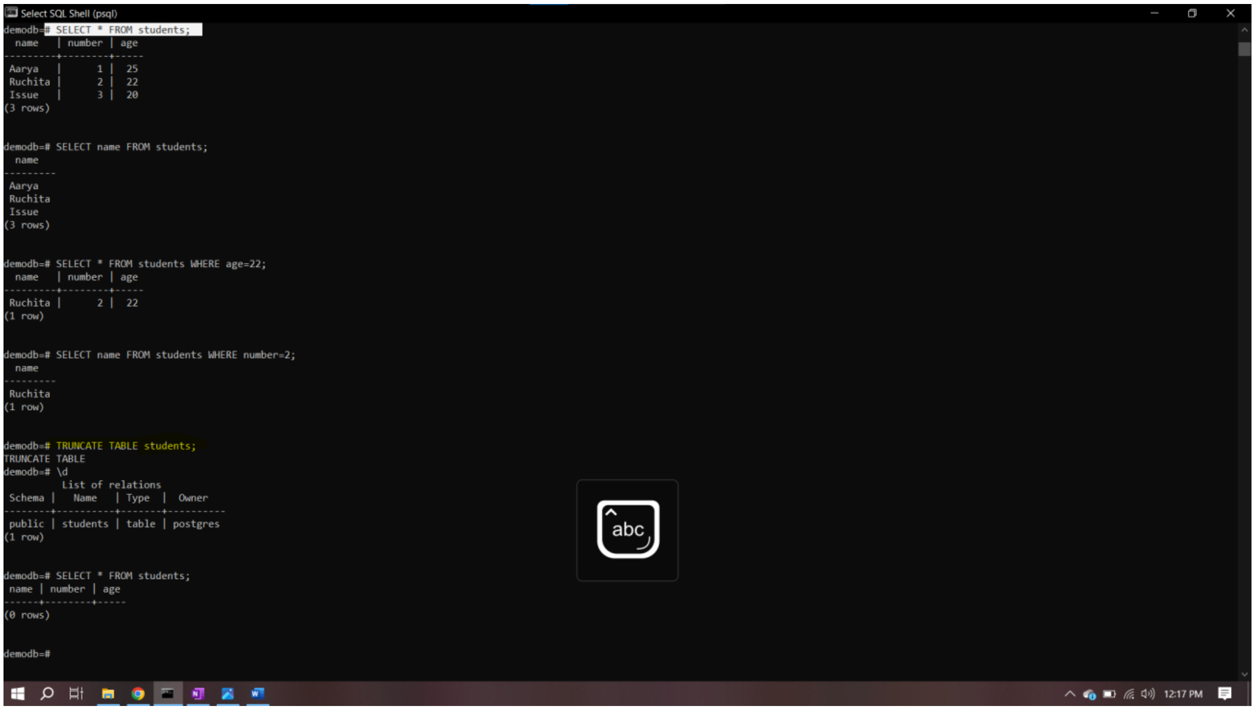
```
postgres=# \c demodb
You are now connected to database "demodb" as user "postgres".
demodb=# create database test;
CREATE DATABASE
demodb=# \l
                                             List of databases
   Name    |  Owner   | Encoding |          Collate           |           Ctype            |   Access privileges
-----------+----------+----------+----------------------------+----------------------------+-----------------------
 demodb    | postgres | UTF8     | English_United States.1252 | English_United States.1252 |
 postgres  | postgres | UTF8     | English_United States.1252 | English_United States.1252 |
 template0 | postgres | UTF8     | English_United States.1252 | English_United States.1252 | =c/postgres          +
           |          |          |                            |                            | postgres=CTc/postgres
 template1 | postgres | UTF8     | English_United States.1252 | English_United States.1252 | =c/postgres          +
           |          |          |                            |                            | postgres=CTc/postgres
 test      | postgres | UTF8     | English_United States.1252 | English_United States.1252 |
(5 rows)


demodb=# drop database test;
DROP DATABASE
demodb=# \l
                                             List of databases
   Name    |  Owner   | Encoding |          Collate           |           Ctype            |   Access privileges
-----------+----------+----------+----------------------------+----------------------------+-----------------------
 demodb    | postgres | UTF8     | English_United States.1252 | English_United States.1252 |
 postgres  | postgres | UTF8     | English_United States.1252 | English_United States.1252 |
 template0 | postgres | UTF8     | English_United States.1252 | English_United States.1252 | =c/postgres          +
           |          |          |                            |                            | postgres=CTc/postgres
 template1 | postgres | UTF8     | English_United States.1252 | English_United States.1252 | =c/postgres          +
           |          |          |                            |                            | postgres=CTc/postgres
(4 rows)


demodb=# _
```

CREATING AND DATA INSERTING INTO TABLE:-



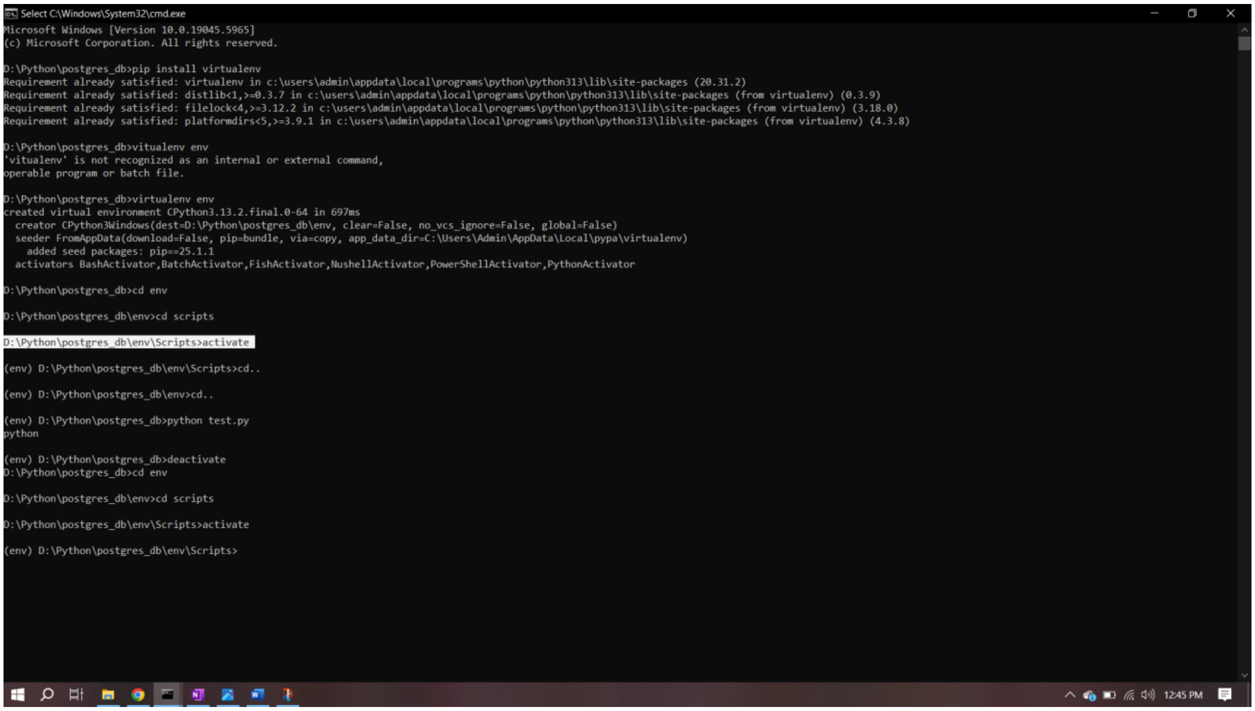
```
demodb=# CREATE TABLE students(name text, number int, age int);
CREATE TABLE
demodb=# \d
          List of relations
 Schema |   Name   | Type  |  Owner
--------+----------+-------+----------
 public | students | table | postgres
(1 row)


demodb=# INSERT INTO students(name,number,age) VALUES('Aarya', 1, 25);
INSERT 0 1
demodb=# INSERT INTO students(name,number,age) VALUES('Ruchita', 2, 22);
INSERT 0 1
demodb=# INSERT INTO students(name,number,age) VALUES('Issue', 3, 20);
INSERT 0 1
demodb=# _
```

RETRIVING DATA AND DELETING CONTENT IN TABLE:-



```
demodb=# SELECT * FROM students;
  name   | number | age
---------+--------+-----
 Aarya   |      1 |  25
 Ruchita |      2 |  22
 Issue   |      3 |  20
(3 rows)


demodb=# SELECT name FROM students;
  name
---------
 Aarya
 Ruchita
 Issue
(3 rows)


demodb=# SELECT * FROM students WHERE age=22;
  name   | number | age
---------+--------+-----
 Ruchita |      2 |  22
(1 row)


demodb=# SELECT name FROM students WHERE number=2;
  name
---------
 Ruchita
(1 row)


demodb=# TRUNCATE TABLE students;
TRUNCATE TABLE
demodb=# \d
          List of relations
 Schema |   Name   | Type  |  Owner
--------+----------+-------+----------
 public | students | table | postgres
(1 row)


demodb=# SELECT * FROM students;
 name | number | age
------+--------+-----
(0 rows)


demodb=#
```

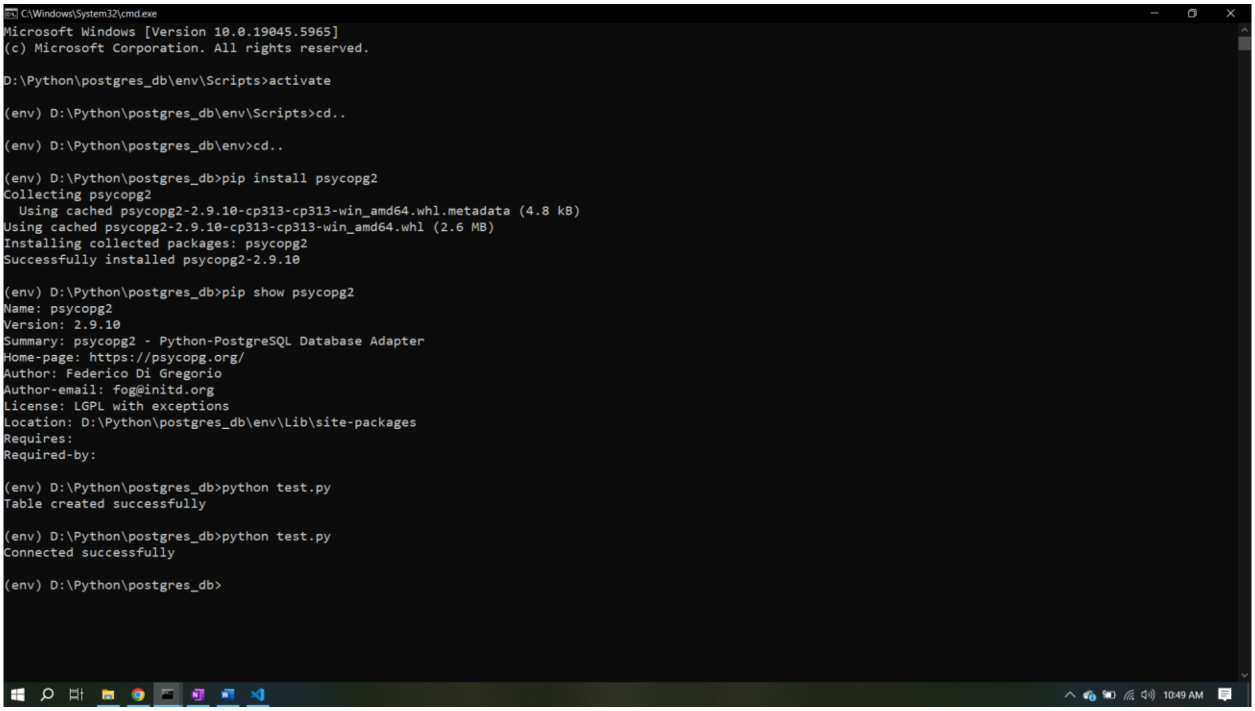
ACTIVATE AND DEACTIVATE ENV:-



```
Microsoft Windows [Version 10.0.19045.5965]
(c) Microsoft Corporation. All rights reserved.

D:\Python\postgres_db>pip install virtualenv
Requirement already satisfied: virtualenv in c:\users\admin\appdata\local\programs\python\python313\lib\site-packages (20.31.2)
Requirement already satisfied: distlib<1,>=0.3.7 in c:\users\admin\appdata\local\programs\python\python313\lib\site-packages (from virtualenv) (0.3.9)
Requirement already satisfied: filelock<4,>=3.12.2 in c:\users\admin\appdata\local\programs\python\python313\lib\site-packages (from virtualenv) (3.18.0)
Requirement already satisfied: platformdirs<5,>=3.9.1 in c:\users\admin\appdata\local\programs\python\python313\lib\site-packages (from virtualenv) (4.3.8)

D:\Python\postgres_db>vitualenv env
'vitualenv' is not recognized as an internal or external command,
operable program or batch file.

D:\Python\postgres_db>virtualenv env
created virtual environment CPython3.13.2.final.0-64 in 697ms
  creator CPython3Windows(dest=D:\Python\postgres_db\env, clear=False, no_vcs_ignore=False, global=False)
  seeder FromAppData(download=False, pip=bundle, via=copy, app_data_dir=C:\Users\Admin\AppData\Local\pypa\virtualenv)
    added seed packages: pip==25.1.1
  activators BashActivator,BatchActivator,FishActivator,NushellActivator,PowerShellActivator,PythonActivator

D:\Python\postgres_db>cd env

D:\Python\postgres_db\env>cd scripts

D:\Python\postgres_db\env\Scripts>activate

(env) D:\Python\postgres_db\env\Scripts>cd..

(env) D:\Python\postgres_db\env>cd..

(env) D:\Python\postgres_db>python test.py
python

(env) D:\Python\postgres_db>deactivate
D:\Python\postgres_db>cd env

D:\Python\postgres_db\env>cd scripts

D:\Python\postgres_db\env\Scripts>activate

(env) D:\Python\postgres_db\env\Scripts>
```

CONNECTING TO DATABSE:-

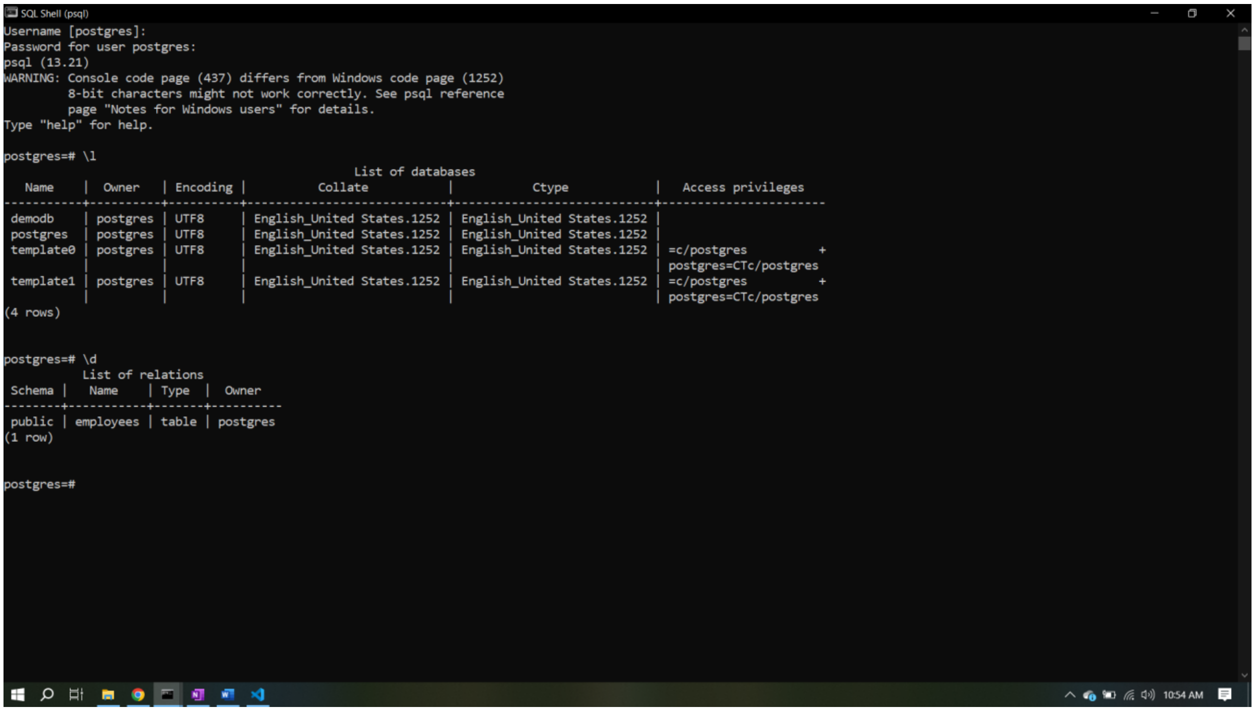
```
import psycopg2
# def table():
connect = psycopg2.connect(
        dbname= "postgres",
        user = "postgres",
        password = "Aashu@191010",
        host = "localhost",
        port = "5433"
    )
print("Connected successfully")
```



```
Microsoft Windows [Version 10.0.19045.5965]
(c) Microsoft Corporation. All rights reserved.

D:\Python\postgres_db\env\Scripts>activate

(env) D:\Python\postgres_db\env\Scripts>cd..

(env) D:\Python\postgres_db\env>cd..

(env) D:\Python\postgres_db>pip install psycopg2
Collecting psycopg2
  Using cached psycopg2-2.9.10-cp313-cp313-win_amd64.whl.metadata (4.8 kB)
Using cached psycopg2-2.9.10-cp313-cp313-win_amd64.whl (2.6 MB)
Installing collected packages: psycopg2
Successfully installed psycopg2-2.9.10

(env) D:\Python\postgres_db>pip show psycopg2
Name: psycopg2
Version: 2.9.10
Summary: psycopg2 - Python-PostgreSQL Database Adapter
Home-page: https://psycopg.org/
Author: Federico Di Gregorio
Author-email: fog@initd.org
License: LGPL with exceptions
Location: D:\Python\postgres_db\env\Lib\site-packages
Requires:
Required-by:

(env) D:\Python\postgres_db>python test.py
Table created successfully

(env) D:\Python\postgres_db>python test.py
Connected successfully

(env) D:\Python\postgres_db>
```

CREATING TABLE USING PYTHON:-

```
import psycopg2
def table():
    connect = psycopg2.connect(
            dbname= "postgres",
            user = "postgres",
            password = "Aashu@191010",
            host = "localhost",
            port = "5433"
        )
    cursor = connect.cursor()
        # Test the connection
    cursor.execute('''create table Employees(Name text,ID int,age int);''')
    print("Table created successfully")

    connect.commit()
    connect.close()
table()
```

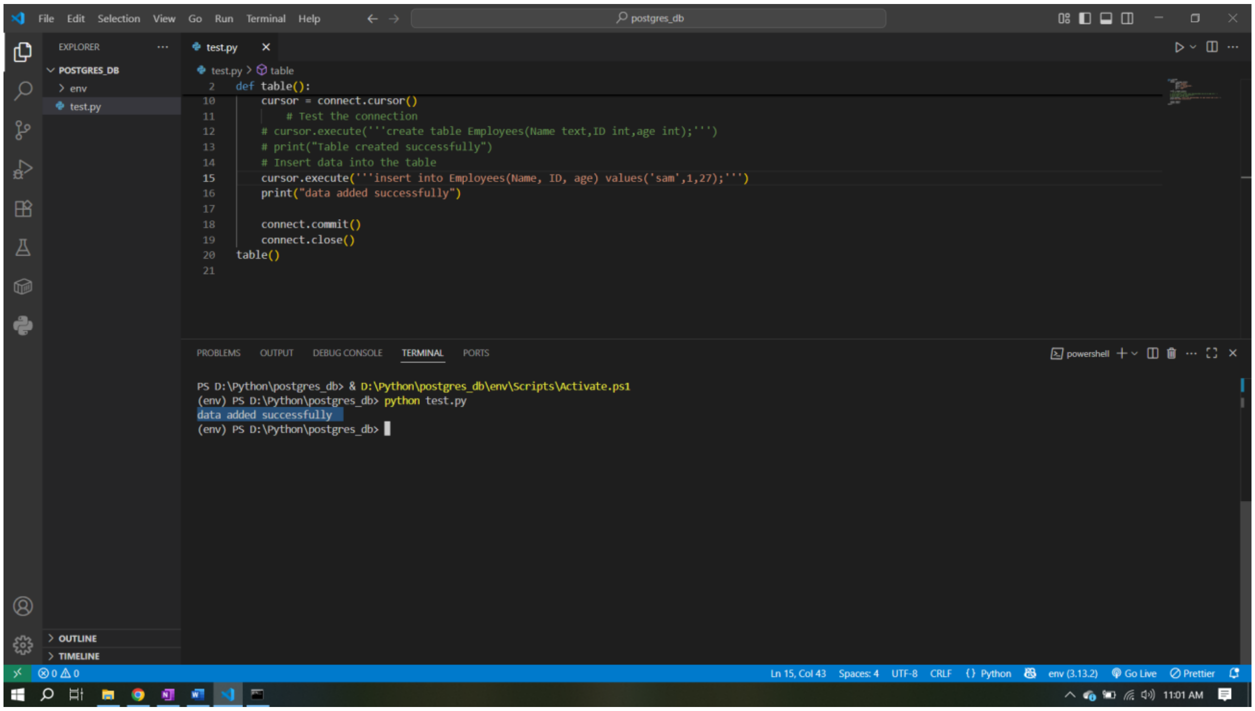


```
Username [postgres]:
Password for user postgres:
psql (13.21)
WARNING: Console code page (437) differs from Windows code page (1252)
         8-bit characters might not work correctly. See psql reference
         page "Notes for Windows users" for details.
Type "help" for help.

postgres=# \l
                                          List of databases
   Name    |  Owner   | Encoding |          Collate           |           Ctype            |   Access privileges
-----------+----------+----------+----------------------------+----------------------------+-----------------------
 demodb    | postgres | UTF8     | English_United States.1252 | English_United States.1252 |
 postgres  | postgres | UTF8     | English_United States.1252 | English_United States.1252 |
 template0 | postgres | UTF8     | English_United States.1252 | English_United States.1252 | =c/postgres          +
           |          |          |                            |                            | postgres=CTc/postgres
 template1 | postgres | UTF8     | English_United States.1252 | English_United States.1252 | =c/postgres          +
           |          |          |                            |                            | postgres=CTc/postgres
(4 rows)


postgres=# \d
           List of relations
 Schema |   Name    | Type  |  Owner
--------+-----------+-------+----------
 public | employees | table | postgres
(1 row)


postgres=#
```

INSERTING THE DATA USING PYTHON:-

```
def data():
    connect = psycopg2.connect(
        dbname= "postgres",
        user = "postgres",
        password = "Aashu@191010",
        host = "localhost",
        port = "5433"
    )

    cursor = connect.cursor()

    # Test the connection
    # Insert data into the table
    cursor.execute('''insert into Employees(Name, ID, age)
values('sam',1,27);''')
    print("data added successfully")

    connect.commit()
    connect.close()
```

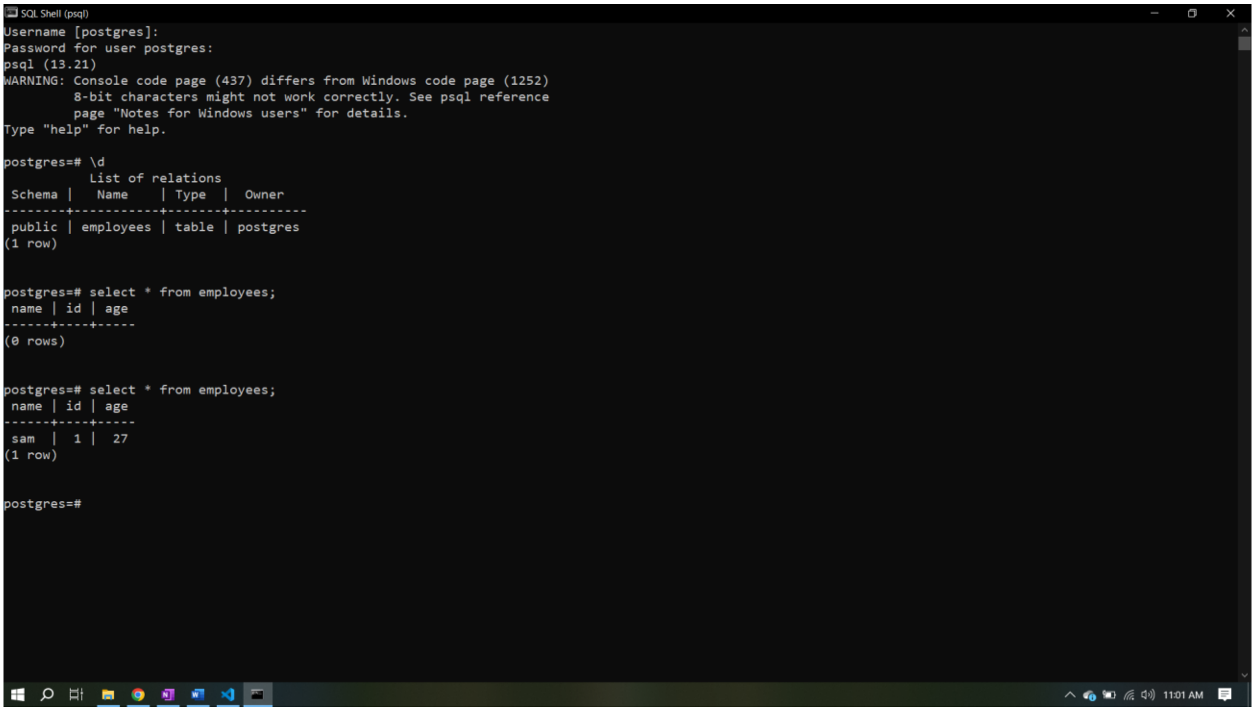
```
data()
```



File Edit Selection View Go Run Terminal Help
postgres_db
EXPLORER
POSTGRES_DB
env
test.py
test.py
table
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
powershell
OUTLINE
TIMELINE
Ln 15, Col 43 Spaces: 4 UTF-8 CRLF {} Python env (3.13.2) Go Live Prettier
11:01 AM

```
def table():
    cursor = connect.cursor()
        # Test the connection
    # cursor.execute('''create table Employees(Name text,ID int,age int);''')
    # print("Table created successfully")
    # Insert data into the table
    cursor.execute('''insert into Employees(Name, ID, age) values('sam',1,27);''')
    print("data added successfully")

    connect.commit()
    connect.close()
table()
```

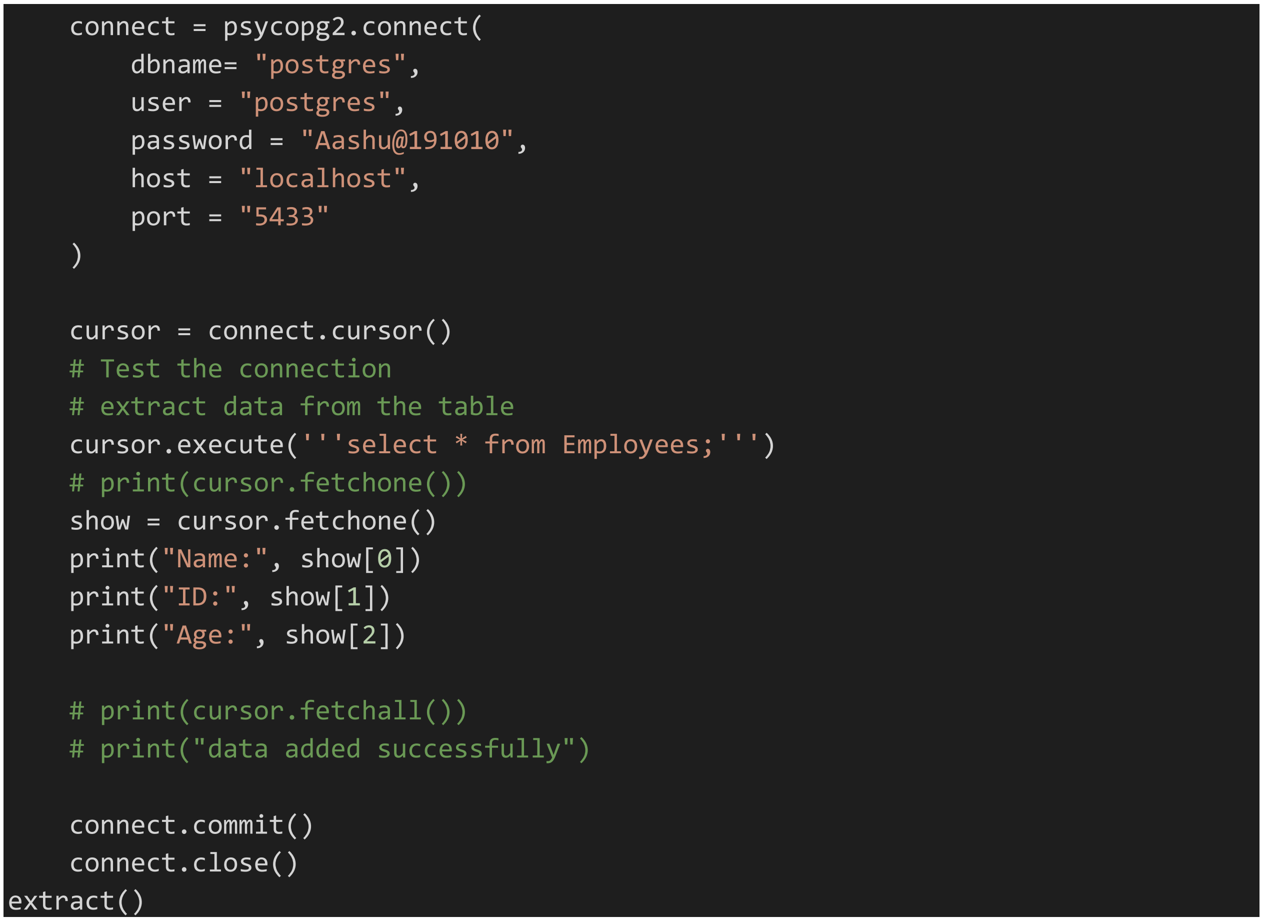
```
PS D:\Python\postgres_db> & D:\Python\postgres_db\env\Scripts\Activate.ps1
(env) PS D:\Python\postgres_db> python test.py
data added successfully
(env) PS D:\Python\postgres_db>
```



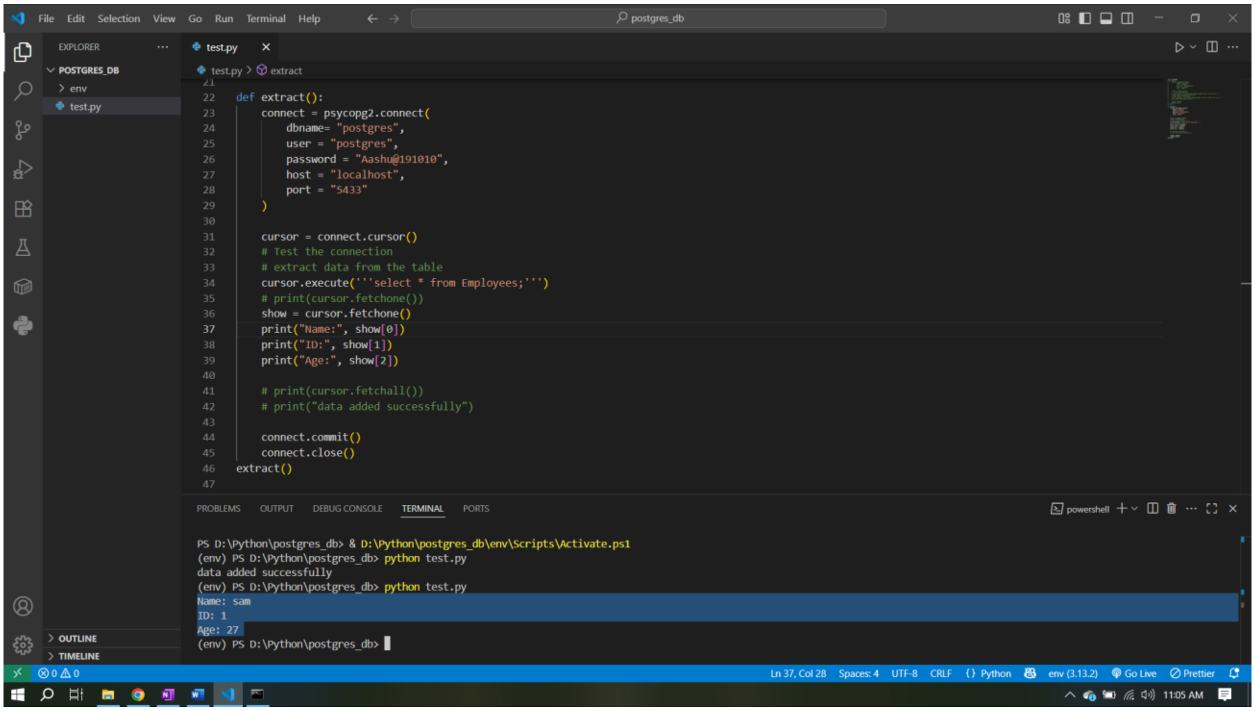
```
Username [postgres]:
Password for user postgres:
psql (13.21)
WARNING: Console code page (437) differs from Windows code page (1252)
         8-bit characters might not work correctly. See psql reference
         page "Notes for Windows users" for details.
Type "help" for help.

postgres=# \d
           List of relations
 Schema |   Name    | Type  |  Owner
--------+-----------+-------+----------
 public | employees | table | postgres
(1 row)


postgres=# select * from employees;
 name | id | age
------+----+-----
(0 rows)


postgres=# select * from employees;
 name | id | age
------+----+-----
 sam  |  1 |  27
(1 row)


postgres=#
```

EXTRACTING DATA FROM DATABASE:-

```
def extract():
```



```
    connect = psycopg2.connect(
        dbname= "postgres",
        user = "postgres",
        password = "Aashu@191010",
        host = "localhost",
        port = "5433"
    )

    cursor = connect.cursor()
    # Test the connection
    # extract data from the table
    cursor.execute('''select * from Employees;''')
    # print(cursor.fetchone())
    show = cursor.fetchone()
    print("Name:", show[0])
    print("ID:", show[1])
    print("Age:", show[2])

    # print(cursor.fetchall())
    # print("data added successfully")

    connect.commit()
    connect.close()
extract()
```

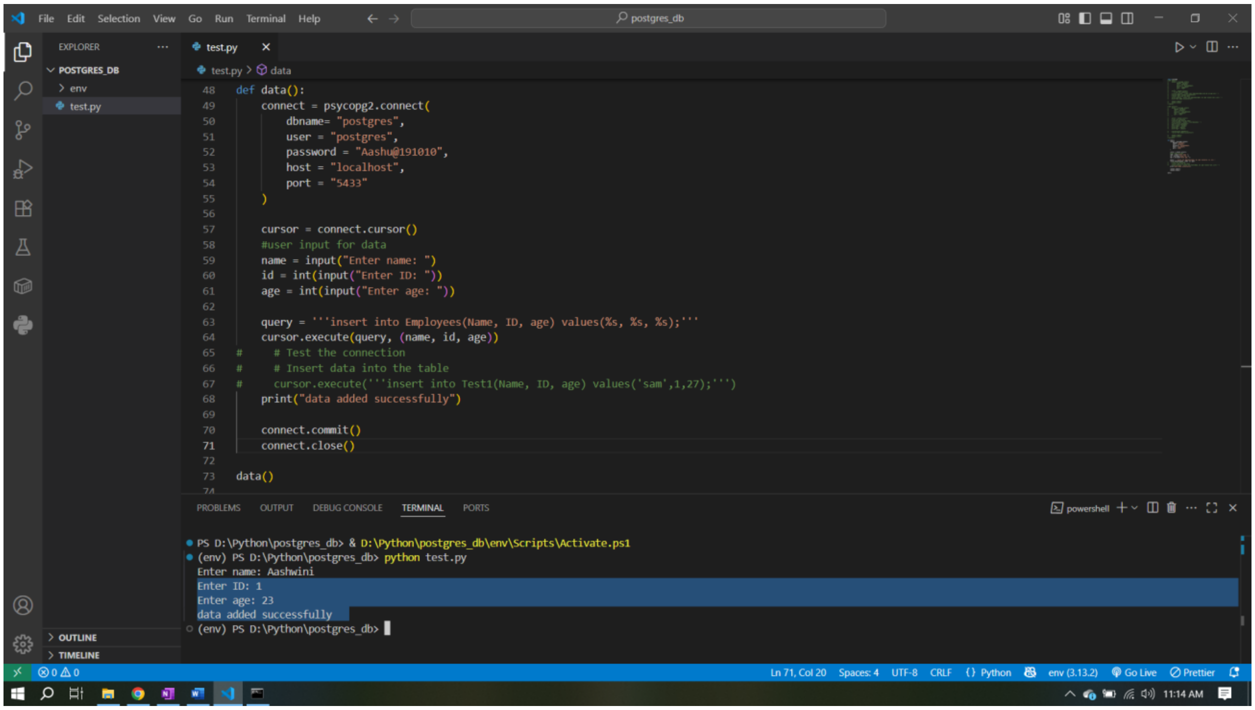


```
def extract():
    connect = psycopg2.connect(
        dbname= "postgres",
        user = "postgres",
        password = "Aashu@191010",
        host = "localhost",
        port = "5433"
    )

    cursor = connect.cursor()
    # Test the connection
    # extract data from the table
    cursor.execute('''select * from Employees;''')
    # print(cursor.fetchone())
    show = cursor.fetchone()
    print("Name:", show[0])
    print("ID:", show[1])
    print("Age:", show[2])

    # print(cursor.fetchall())
    # print("data added successfully")

    connect.commit()
    connect.close()
extract()
```

```
PS D:\Python\postgres_db> & D:\Python\postgres_db\env\Scripts\Activate.ps1
(env) PS D:\Python\postgres_db> python test.py
data added successfully
(env) PS D:\Python\postgres_db> python test.py
Name: sam
ID: 1
Age: 27
(env) PS D:\Python\postgres_db>
```

ADDING INPUT FROM USER:-

```python
def data():
    connect = psycopg2.connect(
        dbname= "postgres",
        user = "postgres",
        password = "Aashu@191010",
        host = "localhost",
        port = "5433"
    )

    cursor = connect.cursor()
    #user input for data
    name = input("Enter name: ")
    id = int(input("Enter ID: "))
    age = int(input("Enter age: "))

    query = '''insert into Employees(Name, ID, age) values(%s, %s, %s);'''
    cursor.execute(query, (name, id, age))
#     # Test the connection
#     # Insert data into the table
#     cursor.execute('''insert into Test1(Name, ID, age) values('sam',1,27);''')
    print("data added successfully")

    connect.commit()
    connect.close()

data()
```

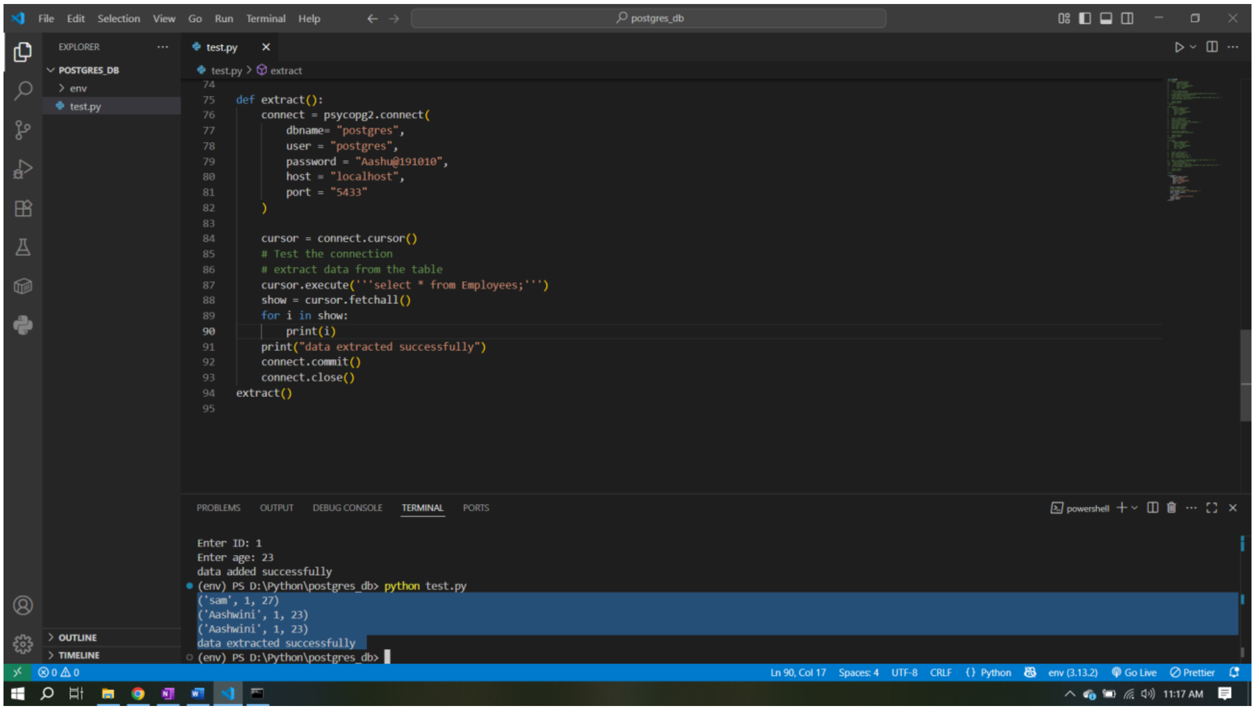

File Edit Selection View Go Run Terminal Help
postgres_db
EXPLORER
POSTGRES_DB
env
test.py
test.py > data
OUTLINE
TIMELINE
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
powershell
Ln 71, Col 20 Spaces: 4 UTF-8 CRLF {} Python env (3.13.2) Go Live Prettier
11:14 AM

```python
def data():
    connect = psycopg2.connect(
        dbname= "postgres",
        user = "postgres",
        password = "Aashu@191010",
        host = "localhost",
        port = "5433"
    )

    cursor = connect.cursor()
    #user input for data
    name = input("Enter name: ")
    id = int(input("Enter ID: "))
    age = int(input("Enter age: "))

    query = '''insert into Employees(Name, ID, age) values(%s, %s, %s);'''
    cursor.execute(query, (name, id, age))
#     # Test the connection
#     # Insert data into the table
#     cursor.execute('''insert into Test1(Name, ID, age) values('sam',1,27);''')
    print("data added successfully")

    connect.commit()
    connect.close()

data()
```

```
PS D:\Python\postgres_db> & D:\Python\postgres_db\env\Scripts\Activate.ps1
(env) PS D:\Python\postgres_db> python test.py
Enter name: Aashwini
Enter ID: 1
Enter age: 23
data added successfully
(env) PS D:\Python\postgres_db>
```

EXTRACTING DATA IN TEST1 TABLE:-

```python
def extract():
    connect = psycopg2.connect(
        dbname= "postgres",
        user = "postgres",
        password = "Aashu@191010",
        host = "localhost",
        port = "5433"
    )

    cursor = connect.cursor()
    # Test the connection
    # extract data from the table
    cursor.execute('''select * from Employees;''')
    show = cursor.fetchall()
    for i in show:
        print(i)
    print("data extracted successfully")
    connect.commit()
    connect.close()
extract()
```



```python

def extract():
    connect = psycopg2.connect(
        dbname= "postgres",
        user = "postgres",
        password = "Aashu@191010",
        host = "localhost",
        port = "5433"
    )

    cursor = connect.cursor()
    # Test the connection
    # extract data from the table
    cursor.execute('''select * from Employees;''')
    show = cursor.fetchall()
    for i in show:
        print(i)
    print("data extracted successfully")
    connect.commit()
    connect.close()
extract()

```

```
Enter ID: 1
Enter age: 23
data added successfully
(env) PS D:\Python\postgres_db> python test.py
('sam', 1, 27)
('Aashwini', 1, 23)
('Aashwini', 1, 23)
data extracted successfully
(env) PS D:\Python\postgres_db>
```