TY B.Tech. (CSE) – II [2022-23] 5CS372:

Advanced Database System Lab.

Assignment No. 3

- **PRN: 2020BTECS00075**
- **Name: Tushar Rajendra Patil**
- **Batch: T7**

- **Title:** Installation, configuration and testing of Oracle 18c XE & MySQL.

- **Aim:** To study the configuration of Oracle 18c XE & MySQL& build Python GUI Application.

- **Introduction:**

Oracle 18c XE:

- Connect Oracle Database to your favorite programming languages and dev environments including Java, .NET, Python, Node.js, Go, PHP, C/C++ and more.
- Learn SQL on the world's leading relational database, or experiment with Oracle's native support for JSON documents and spatial & graph data.
- Use free dev tools and IDEs from Oracle including SQL Developer, SQLcl, and SQL Developer Data Modeler.
- Install free Oracle REST Data Services (ORDS) to REST-enable your database.
- For low-code app development, run Oracle APEX on top of ORDS and XE at no extra cost to rapidly build data-centric web apps that look beautiful in mobile and desktop browsers.

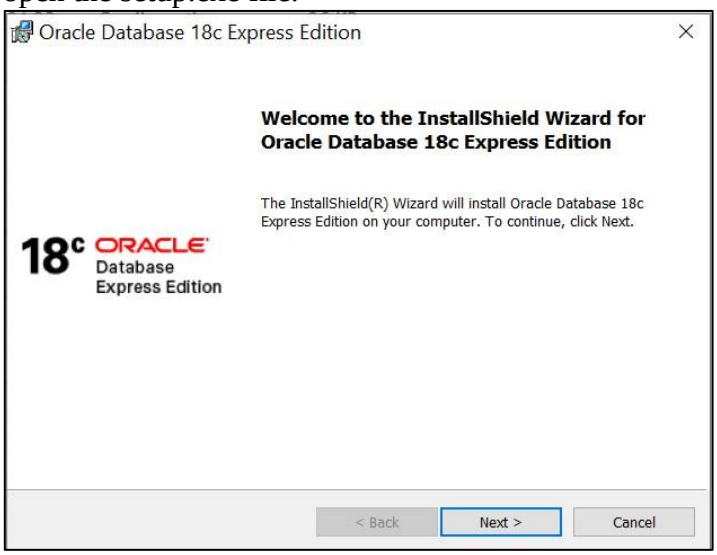
MySQL:

MySQL is an open-source relational database management system (RDBMS) .Its name is a combination of "My", the name of co-founder Michael Widenius's daughter My, and "SQL", the acronym for Structured Query Language. A relational database organizes data into one or more data tables in which data may be related to each other; these relations help structure the data. SQL is a language programmers use to create, modify and extract data from the relational database, as well as control user access to the database. In addition to relational databases and SQL, an RDBMS like MySQL works with an operating system to implement a relational database in a computer's storage system, manages users, allows for network access and facilitates testing database integrity and creation of backups.

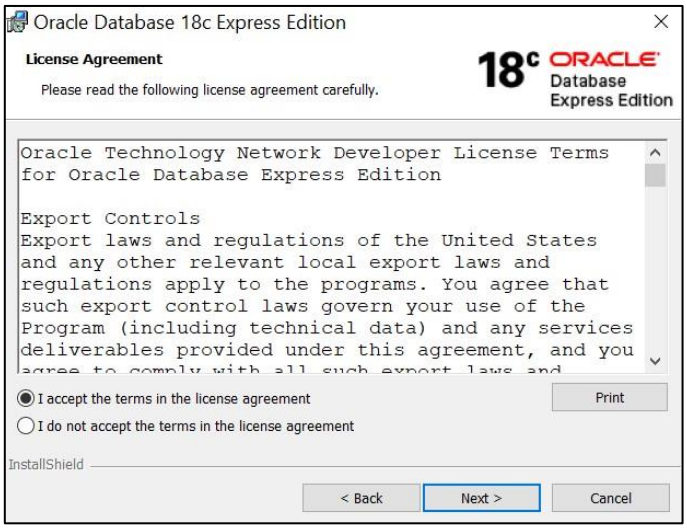
- **Procedure**:
  - **Oracle 18c XE**

Oracle Server Installation:

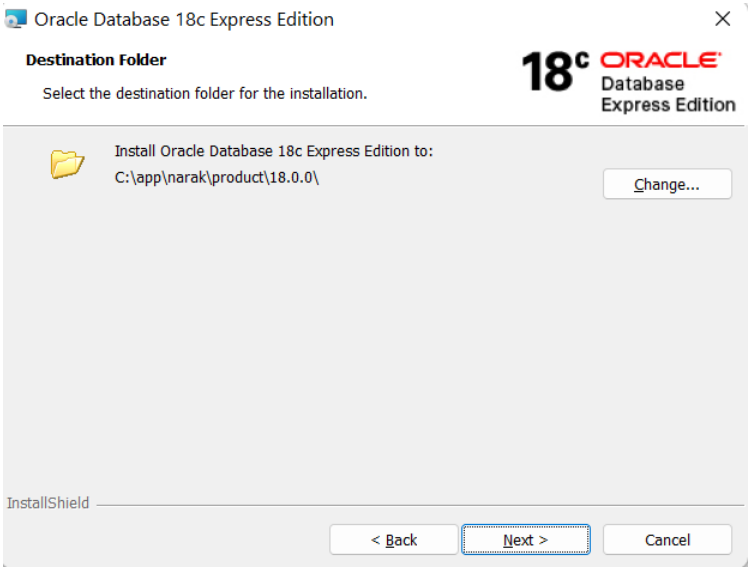
1) Download the Oracle 18c XE file from oracle website for your OS. Extract the zip file and open the setup.exe file.



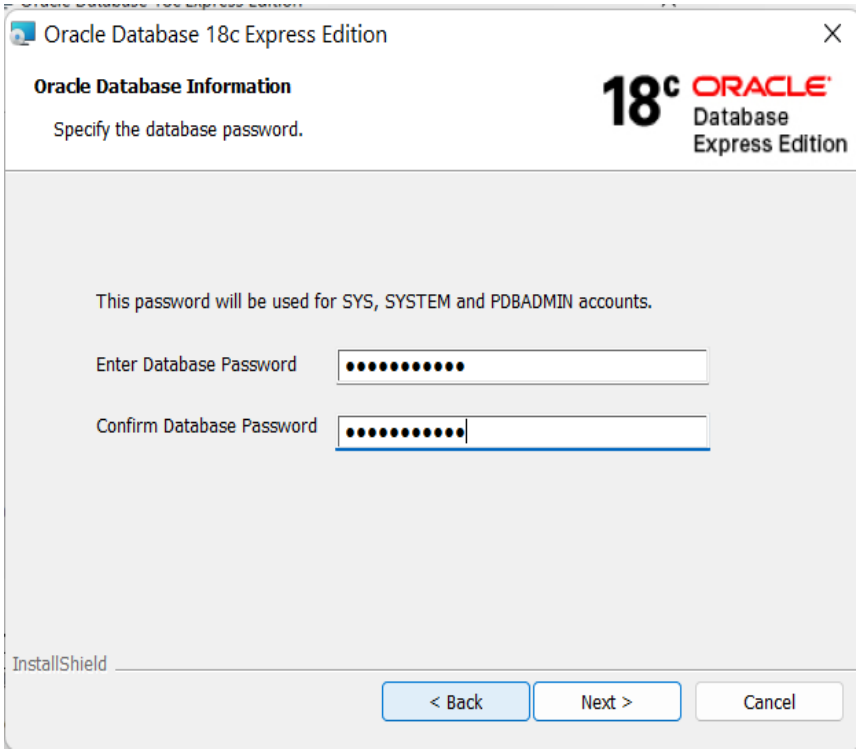
2) Read & accept the License Agreement.



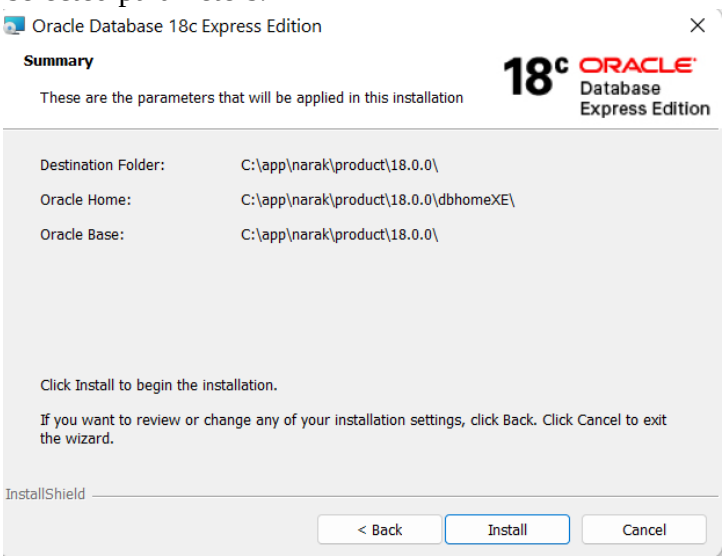
3) Choose the destination to install the Oracle 18c Database.



4) Enter the password for the database.

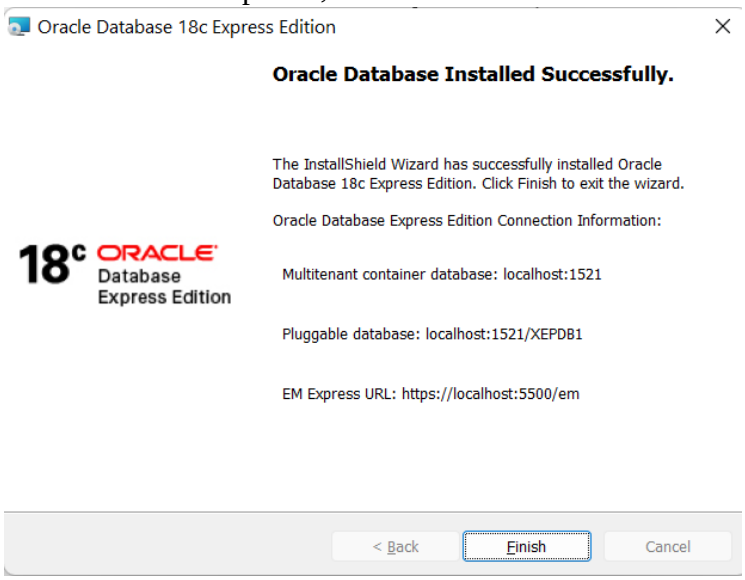


5) Verify the selected parameters.



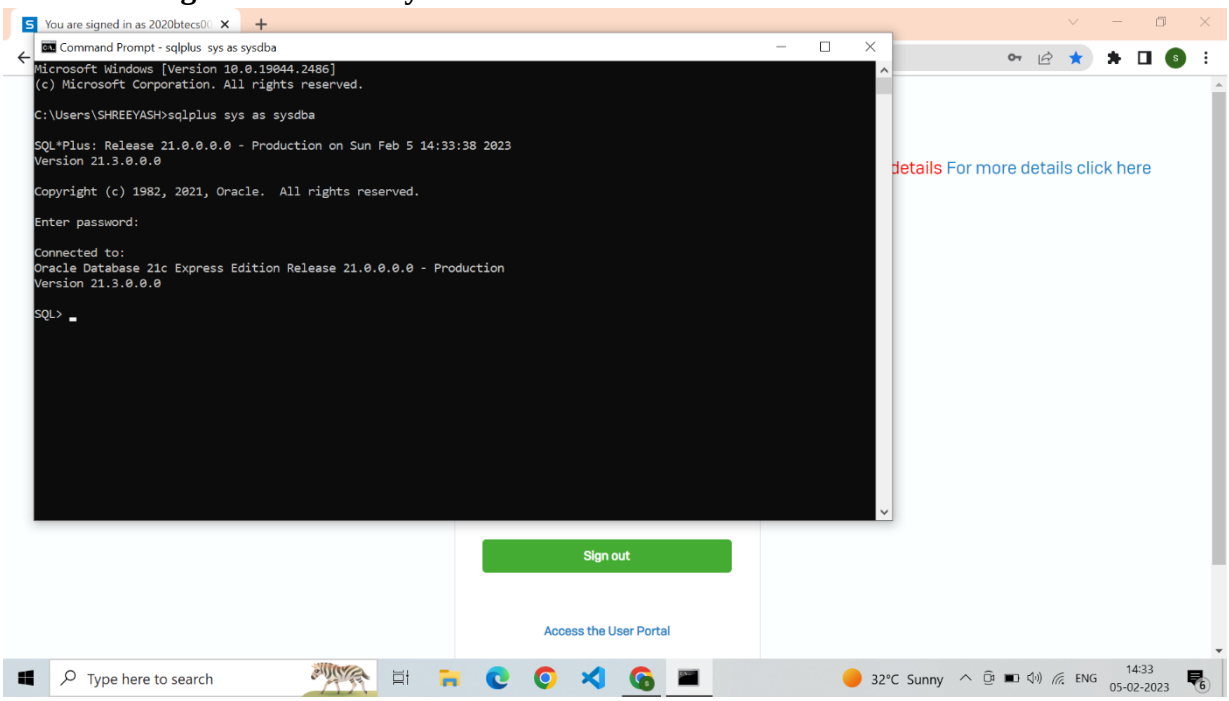
6) Wait for installation to be completed.

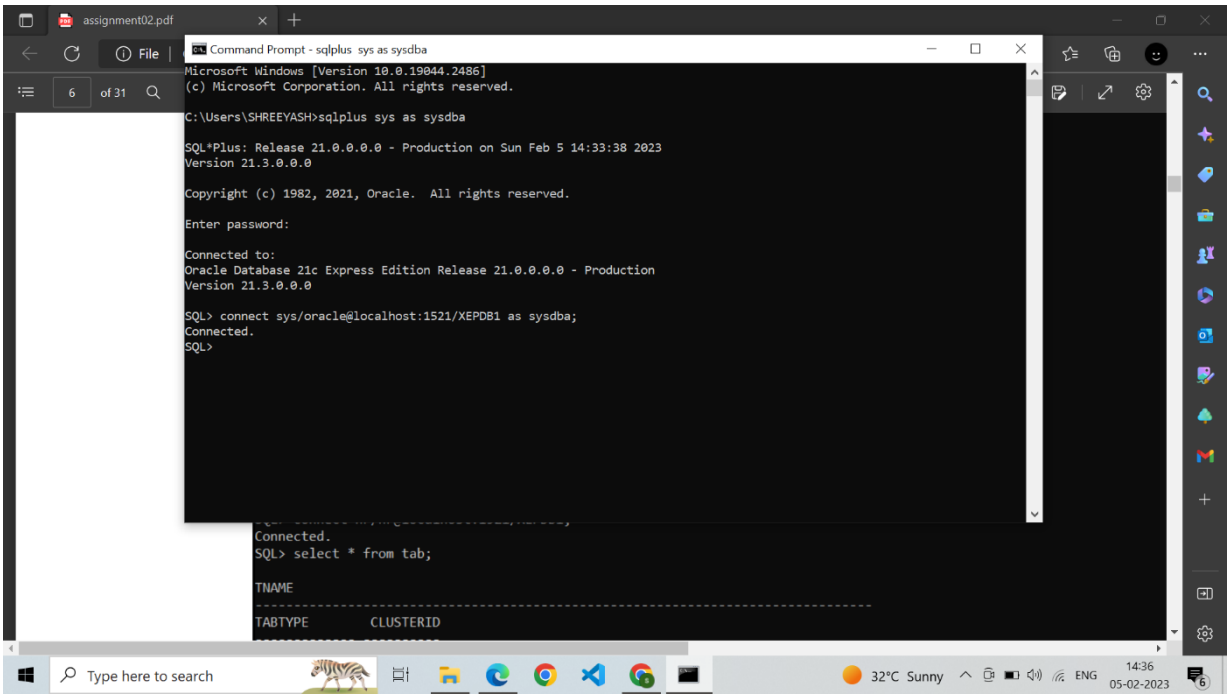
7) When the installation is completed, note down the connection information.



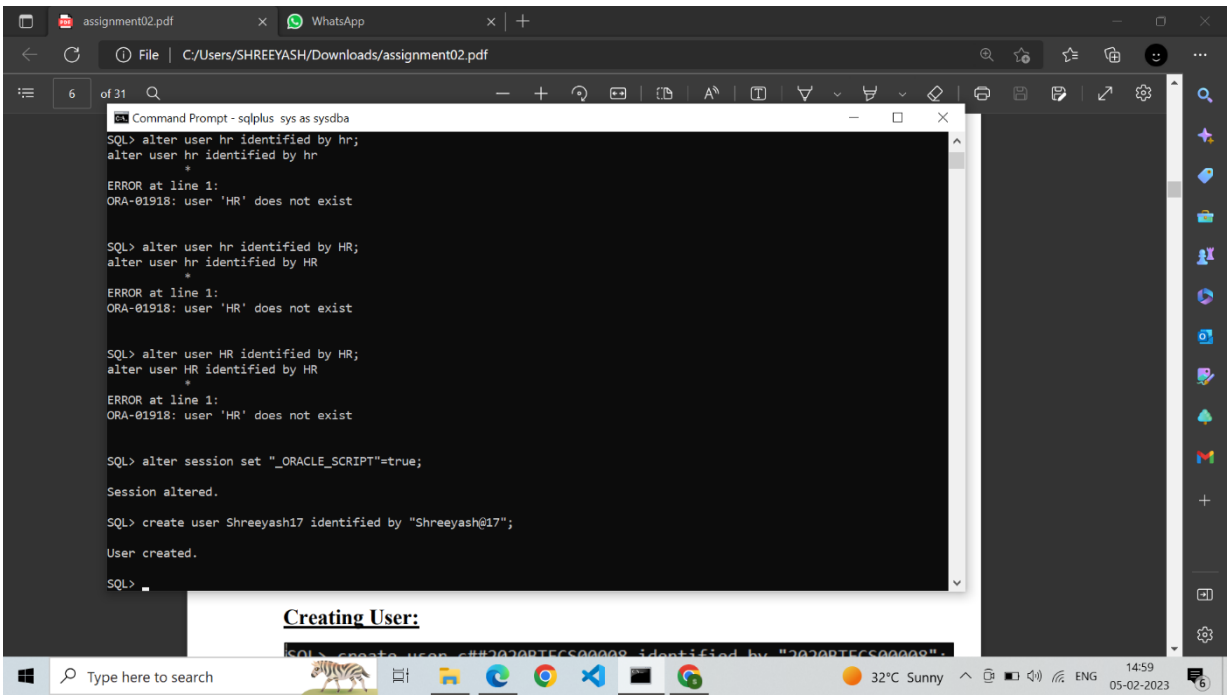
8) Hence, the Oracle Server (18c Express Edition) is installed successfully.

Testing the connectivity:



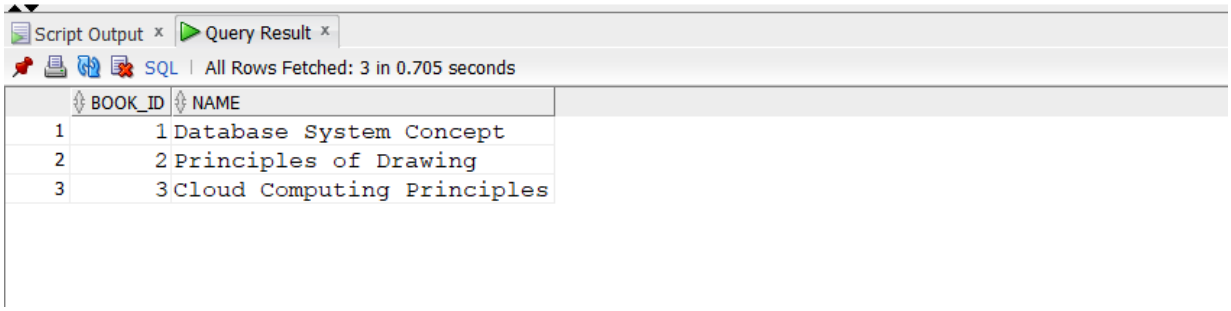


Create user



Connecting to created user:

```
Worksheet  Query Builder
create table books(
book_id number,
name varchar(244)
);
--Inserting data

insert into books values (1, 'Database System Concept');

insert into books values (2, 'Principles of Drawing');
insert into books values (3, 'Cloud Computing Principles');

---Retrieving data

select * from books;
```



Script Output | Query Result

SQL | All Rows Fetched: 3 in 0.705 seconds

	BOOK_ID	NAME
1	1	Database System Concept
2	2	Principles of Drawing
3	3	Cloud Computing Principles

Python GUI application:

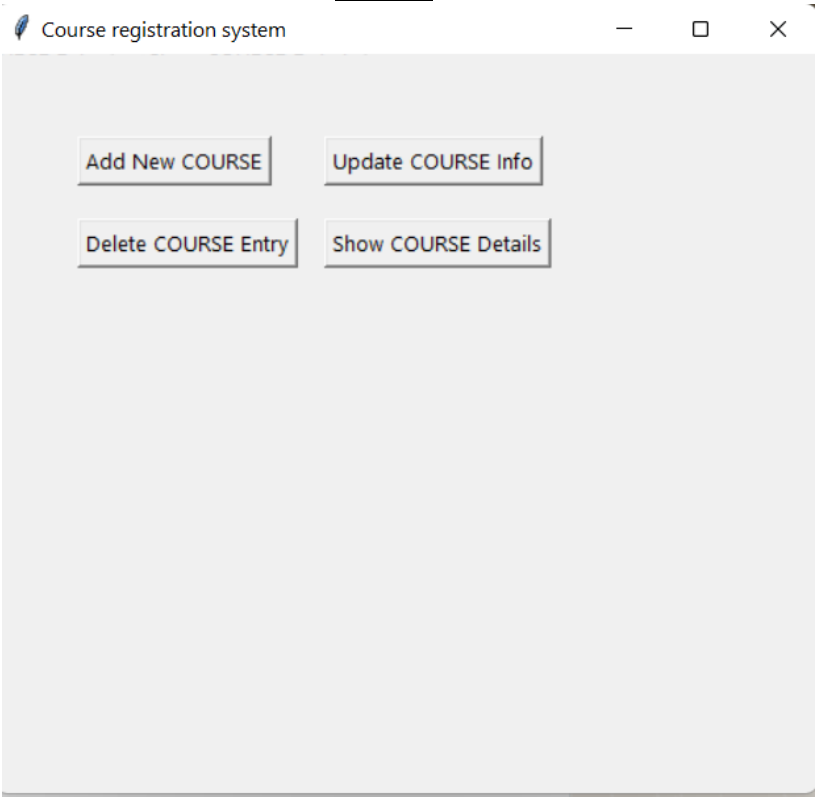
```
import cx_Oracle
from tkinter import *
expression = ""

con = cx_Oracle.connect(
    user="system",
    password="S@n22052002",
    dsn="localhost:1521/XEPDB1"
    # "SYSTEM/1234@XEPDB1"
)

cur = con.cursor()
cur = con.cursor()


root=Tk()
root.geometry('500x450')
root.title("Course registration system")


def add_course(): # new window definition
    def add_query():
        global root
        stat="INSERT INTO books(course_name,course_id) VALUES ('"+E1.get()+"','"+E2.get()+"')"
```

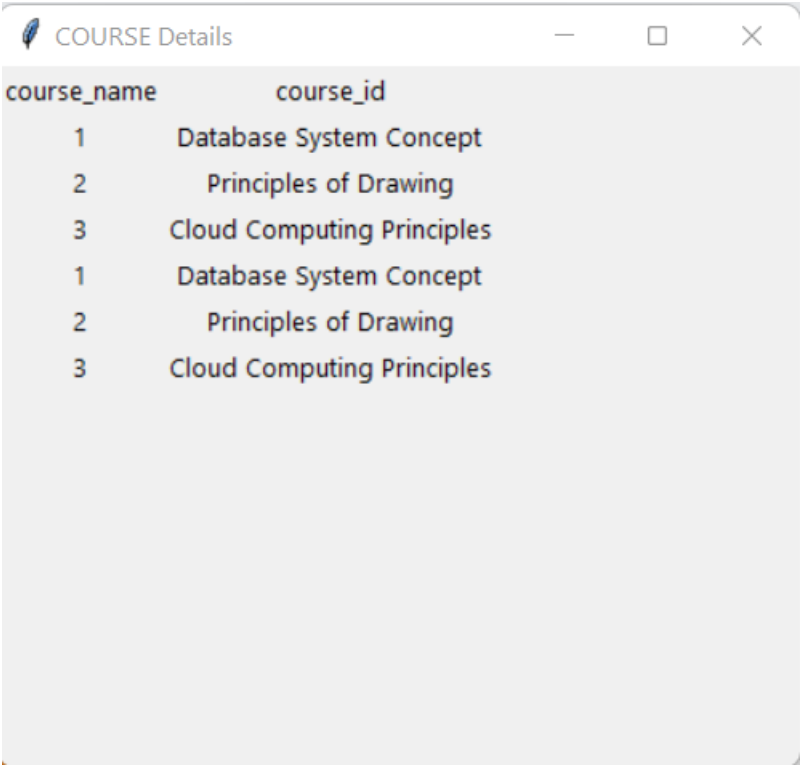
```
        cur.execute(stat)
        con.commit()
        add.config(state=NORMAL)
        update.config(state=NORMAL)
        show.config(state=NORMAL)
        delete.config(state=NORMAL)
        newwin.destroy()
    newwin = Toplevel(root)
    newwin.geometry('500x450')
    add.config(state=DISABLED)
    newwin.title("Add New Course")
    L1 = Label(newwin, text=" COURSE NAME ")
    L1.place(x=10,y=50)
    E1 = Entry(newwin, bd=5)
    E1.place(x=100,y=50)
    L2 = Label(newwin, text=" COURSE ID ")
    L2.place(x=10,y=100)
    E2 = Entry(newwin, bd=5)
    E2.place(x=100,y=100)
    sub=Button(newwin,text="Submit",command=add_query)
    sub.place(x=120,y=200)

def update_data(): # new window definition
    def UPDD():
        global root
        stat="UPDATE books SET course_name = "'+ E1.get() +"' WHERE course_id ='"+E2.get()+"'"
        con.commit()
        cur.execute(stat)
        con.commit()
        add.config(state=NORMAL)
        newwin.destroy()

    newwin = Toplevel(root)
    newwin.geometry('400x350')
    newwin.title("Add New COURSE")
    add.config(state=NORMAL)

    L1 = Label(newwin, text="COURSE Name")
    L1.place(x=10,y=50)
    E1 = Entry(newwin, bd=5)
    E1.place(x=100,y=50)

    L2 = Label(newwin, text="COURSE ID")
    L2.place(x=10,y=100)
    E2 = Entry(newwin, bd=5)
    E2.place(x=100,y=100)
```

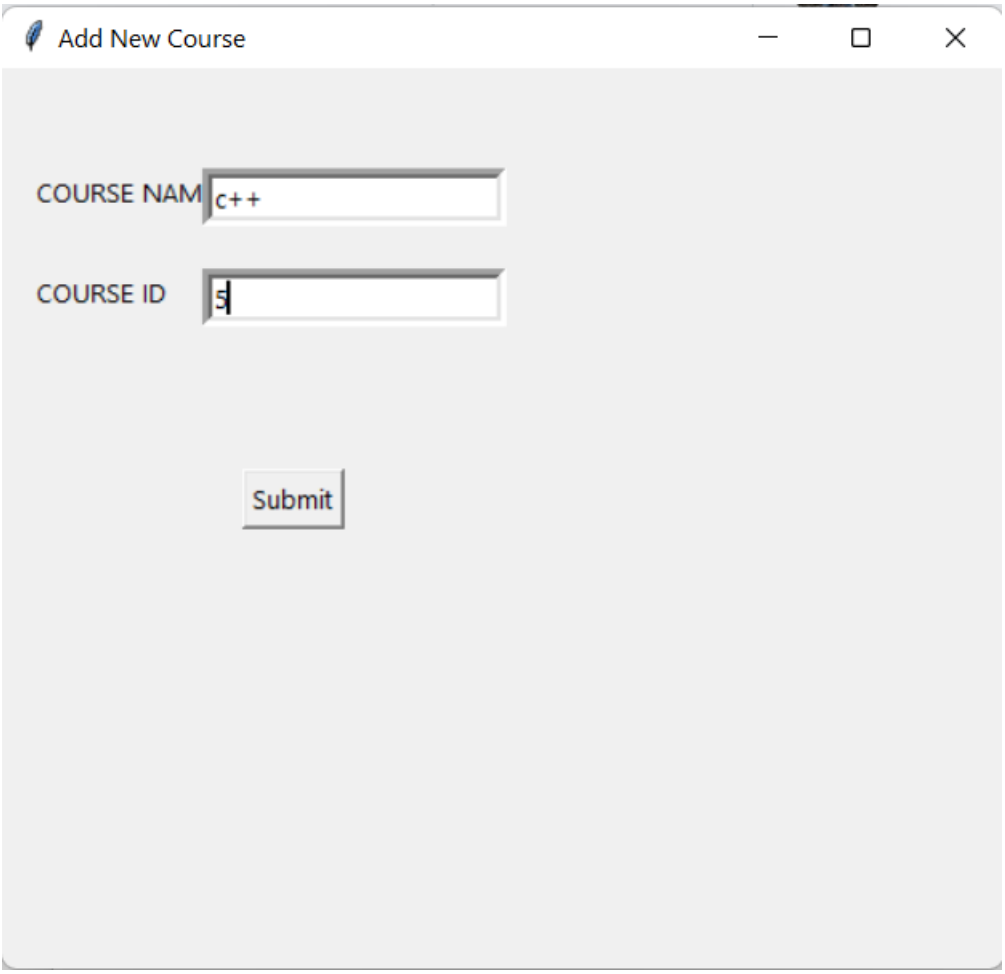
```
    sub=Button(newwin,text="Update",command=UPDD)
    sub.place(x=120,y=200)


def del_data():
    def delete():
        global root
        stat="DELETE FROM books WHERE course_id='"+E1.get()+"'"

        cur.execute(stat)
        con.commit()
        add.config(state=NORMAL)
        newwin.destroy()

    newwin=Toplevel(root)
    newwin.geometry('400x350')
    newwin.title("Delete COURSE")
    add.config(state=NORMAL)
    L1 = Label(newwin, text="course_ic")
    L1.place(x=10, y=50)
    E1 = Entry(newwin,bd=5)
    E1.place(x=100, y=50)
    sub = Button(newwin, text="Delete Entry", command=delete)
    sub.place(x=120, y=200)


def display():
    newwin=Toplevel(root)
    newwin.geometry('400x350')
    newwin.title("COURSE Details")
    stat="SELECT * FROM books"
    cur.execute(stat)
    L1=Label(newwin,text="course_name")
    L1.grid(row=0,column=0)
    L2 = Label(newwin, text="course_id")
    L2.grid(row=0, column=1)

    i=1
    for row in cur:
        L1 = Label(newwin, text=row[0])
        L1.grid(row=i, column=0)
        L2 = Label(newwin, text=row[1])
        L2.grid(row=i, column=1)
        i+=1


add= Button(root,text='Add New COURSE',command=add_course)
delete= Button(root,text='Delete COURSE Entry',command=del_data)
update= Button(root,text='Update COURSE Info',command=update_data)
```

```
show= Button(root,text='Show COURSE Details',command=display)
add.place(x=50,y=50)
delete.place(x=50,y=100)
update.place(x=200,y=50)
show.place(x=200,y=100)

root.mainloop()
```

- **Result:**

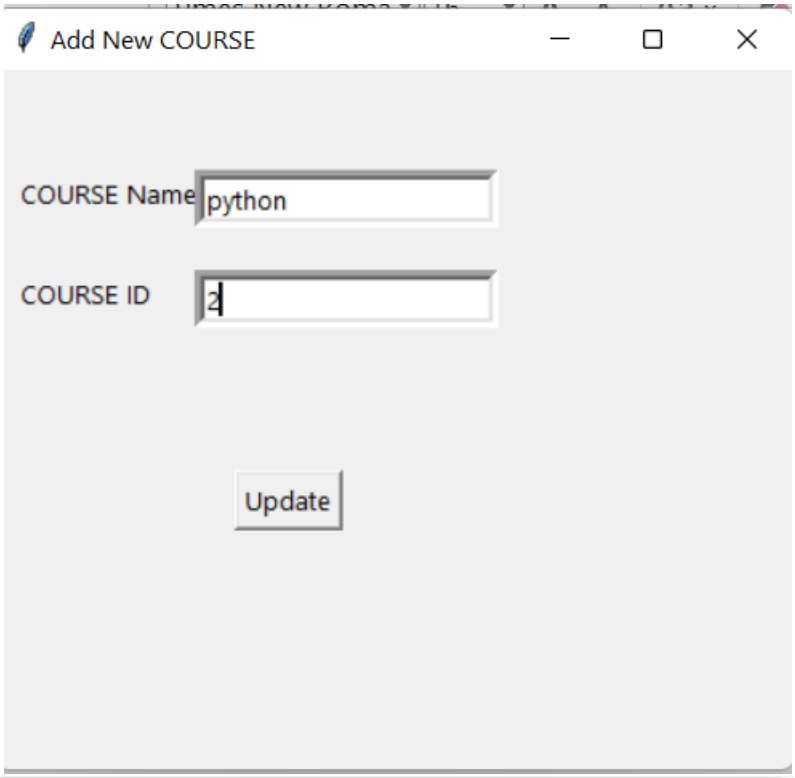

Course registration system
Add New COURSE
Update COURSE Info
Delete COURSE Entry
Show COURSE Details

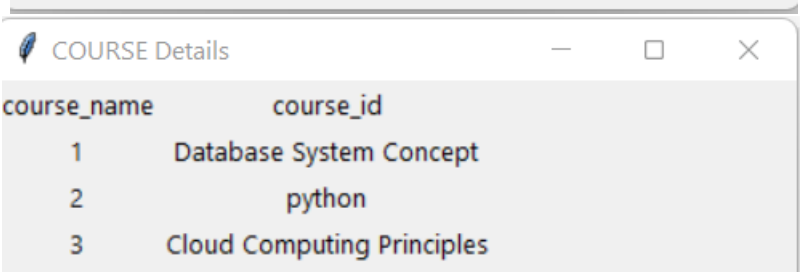

COURSE Details
course_name course_id
1 Database System Concept
2 Principles of Drawing
3 Cloud Computing Principles
1 Database System Concept
2 Principles of Drawing
3 Cloud Computing Principles



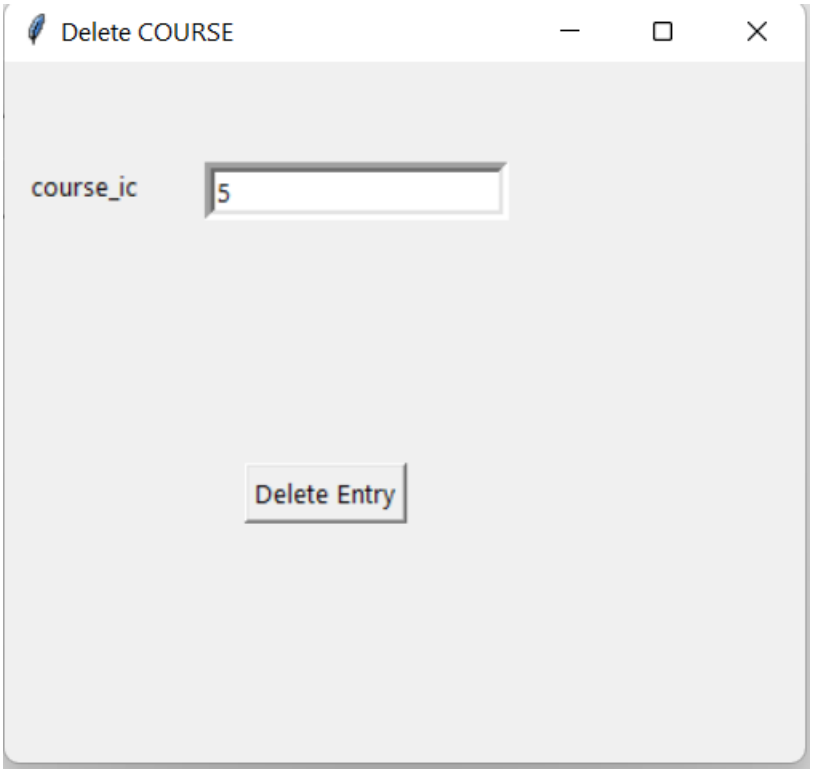
1	Database System Concept
2	python
3	Cloud Computing Principles
4	c++

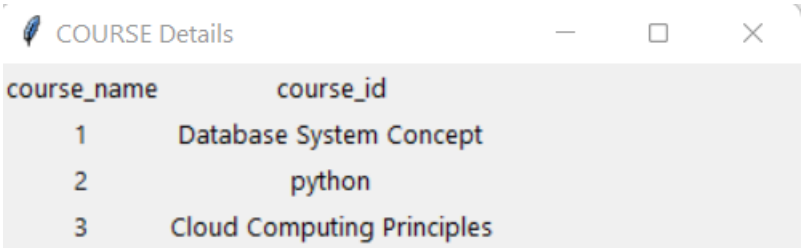
3. <u>Update:</u>


Add New COURSE
COURSE Name
python
COURSE ID
2
Update


COURSE Details
course_name
course_id
1
Database System Concept
2
python
3
Cloud Computing Principles

4.DELETE

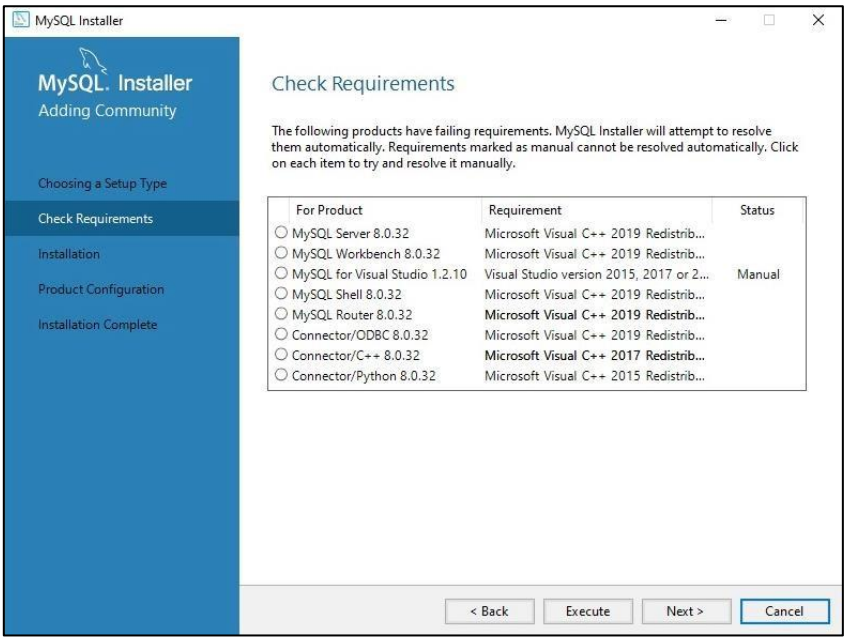

Delete COURSE
course_ic
5
Delete Entry



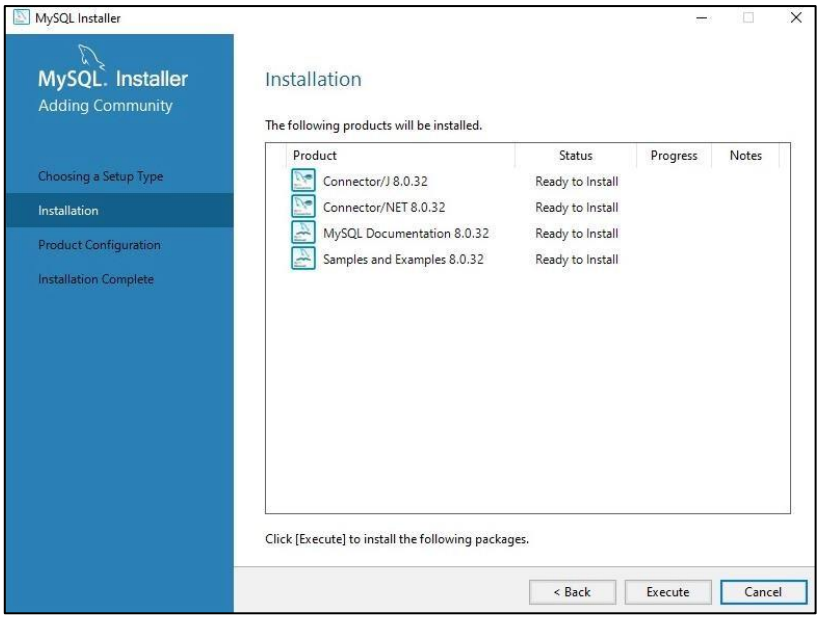
❖ ***MySQL***

MySQL installation:

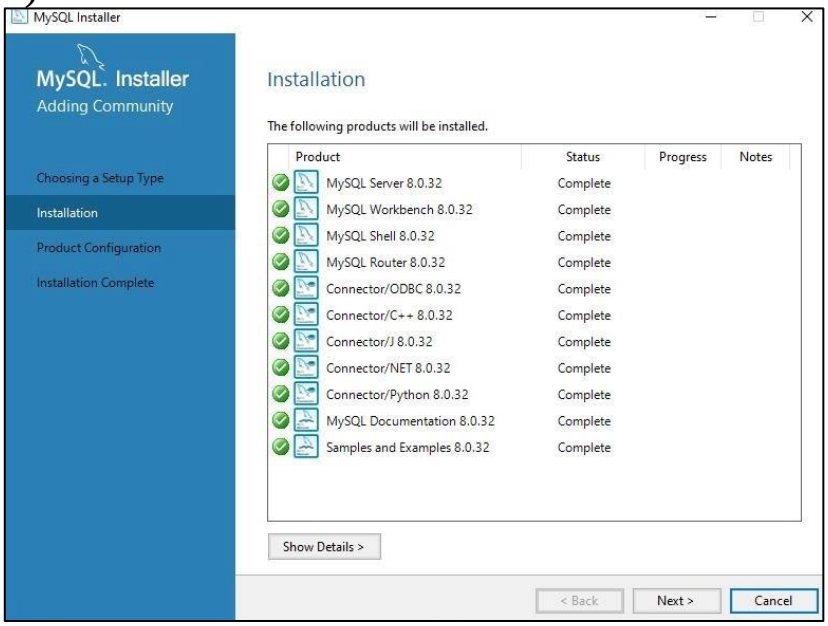
1) Install the setup for MySQL from MySQL website. Run the setup.exe. Choose installation type as 'Full'.
2) It will check whether your computer satisfies the necessary requirements. Install the necessary requirements (select requirements and click Execute) and click next.



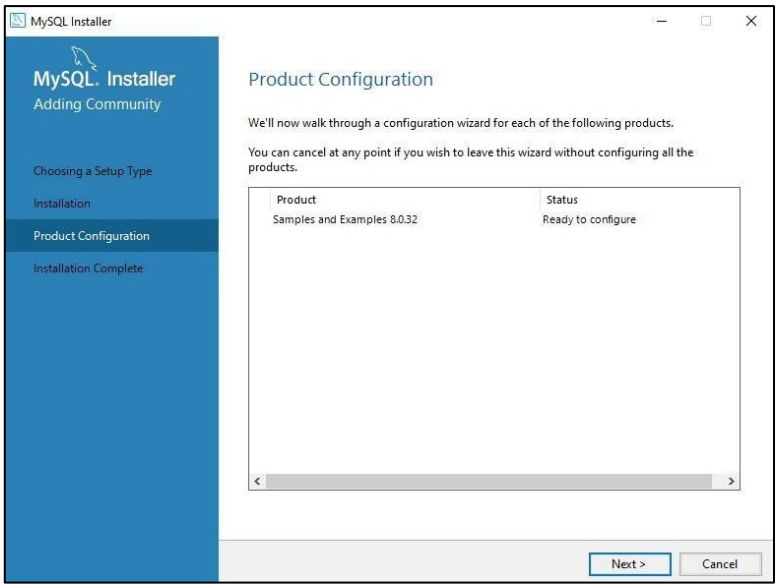
3) Click execute to install the required setups.



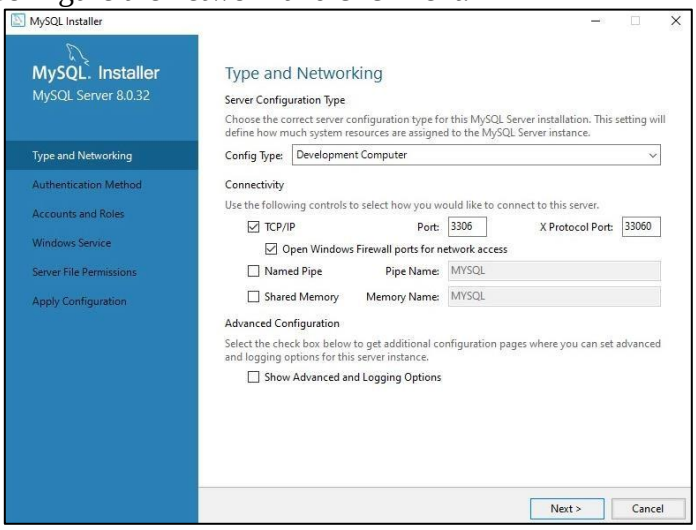
4) Wait until all the files are installed.



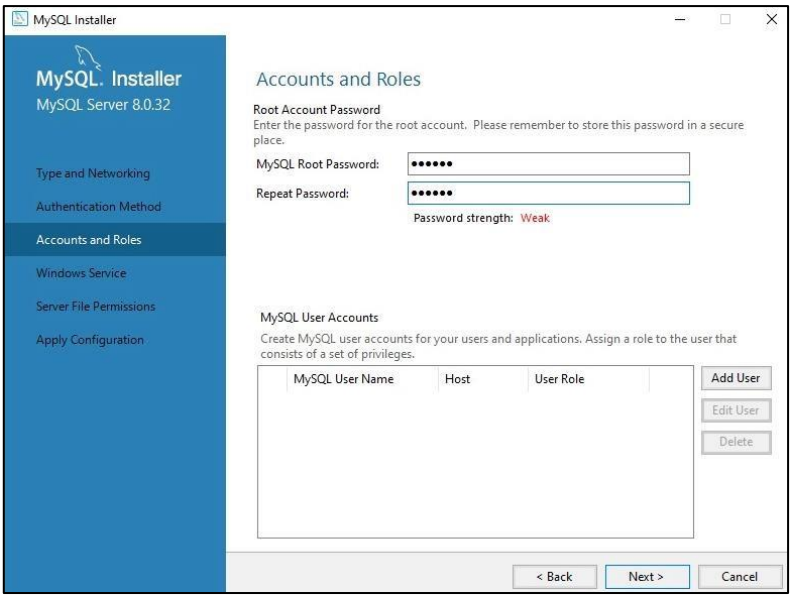
5) Configure the product by clicking next.



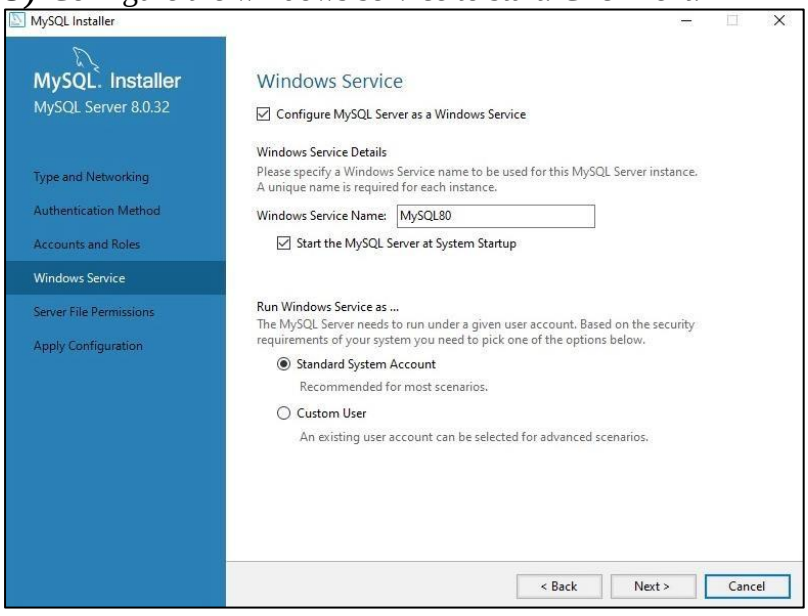
6) Configure the network and click next.



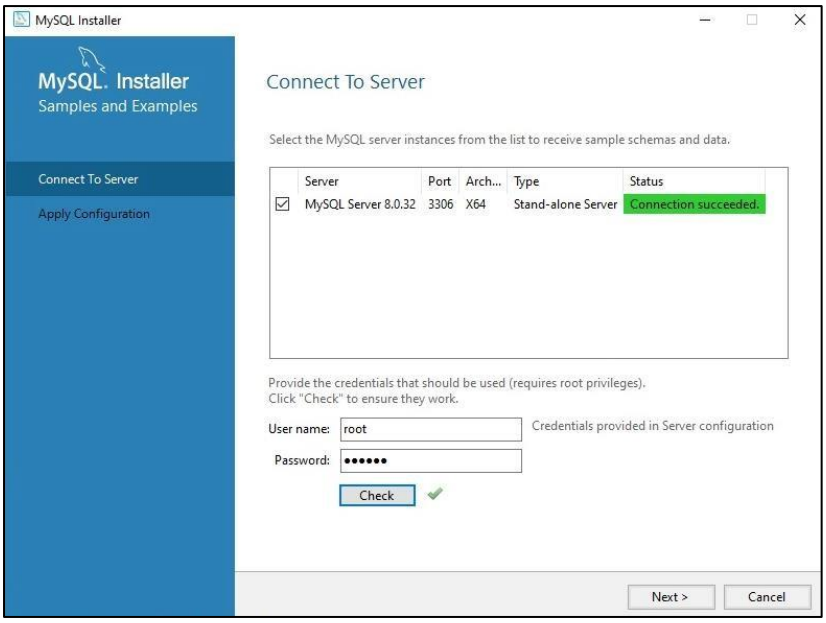
7) Set the password for ‘root’ (admin) and click next.



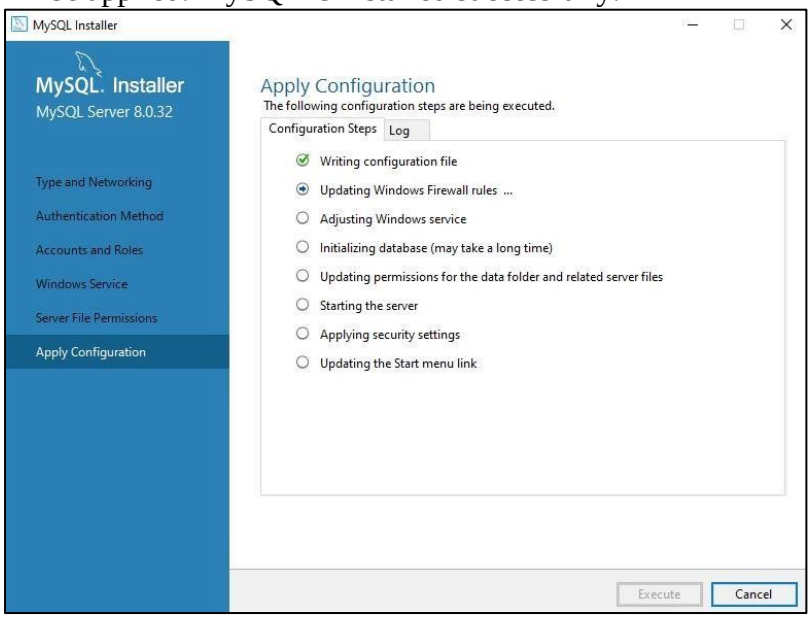
8) Configure the windows service to start. Click next.



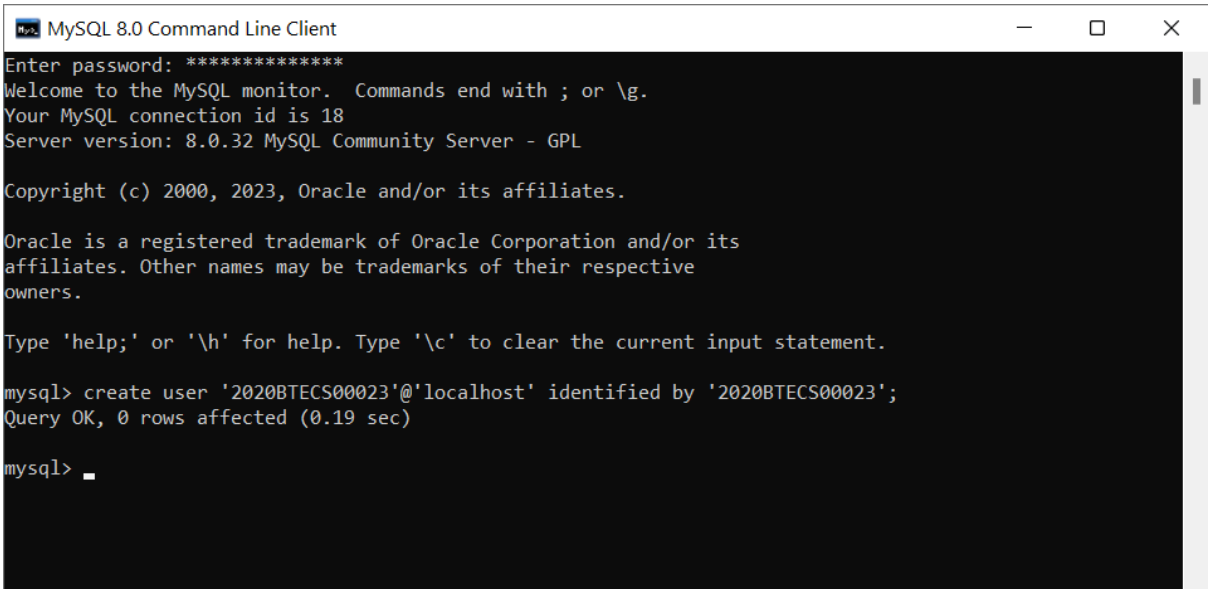
9) Connect to server by logging in with the created credentials. Check the connectivity.

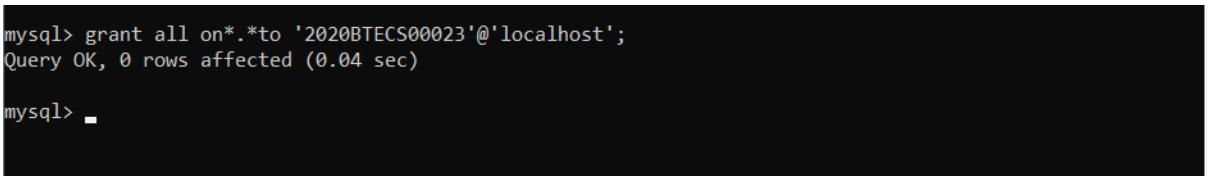


10) Apply the configuration by clicking on execute. Wait for all changes to be applied. MySQL is installed successfully.

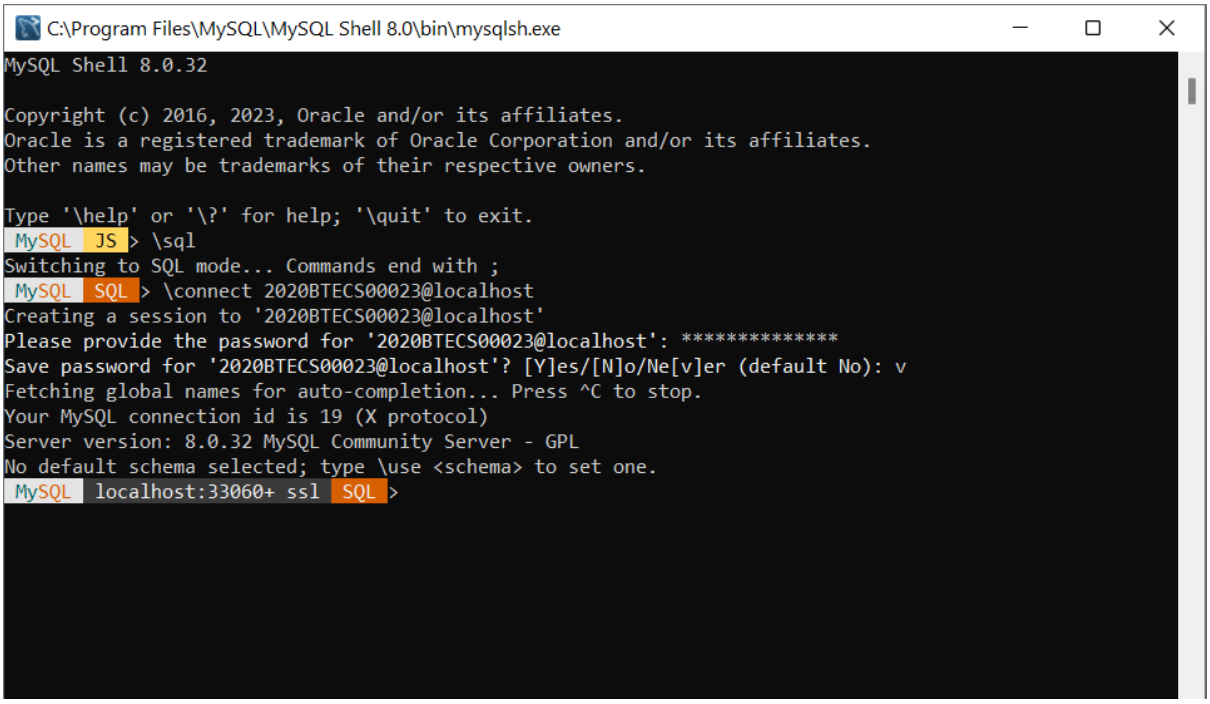


Creating User:

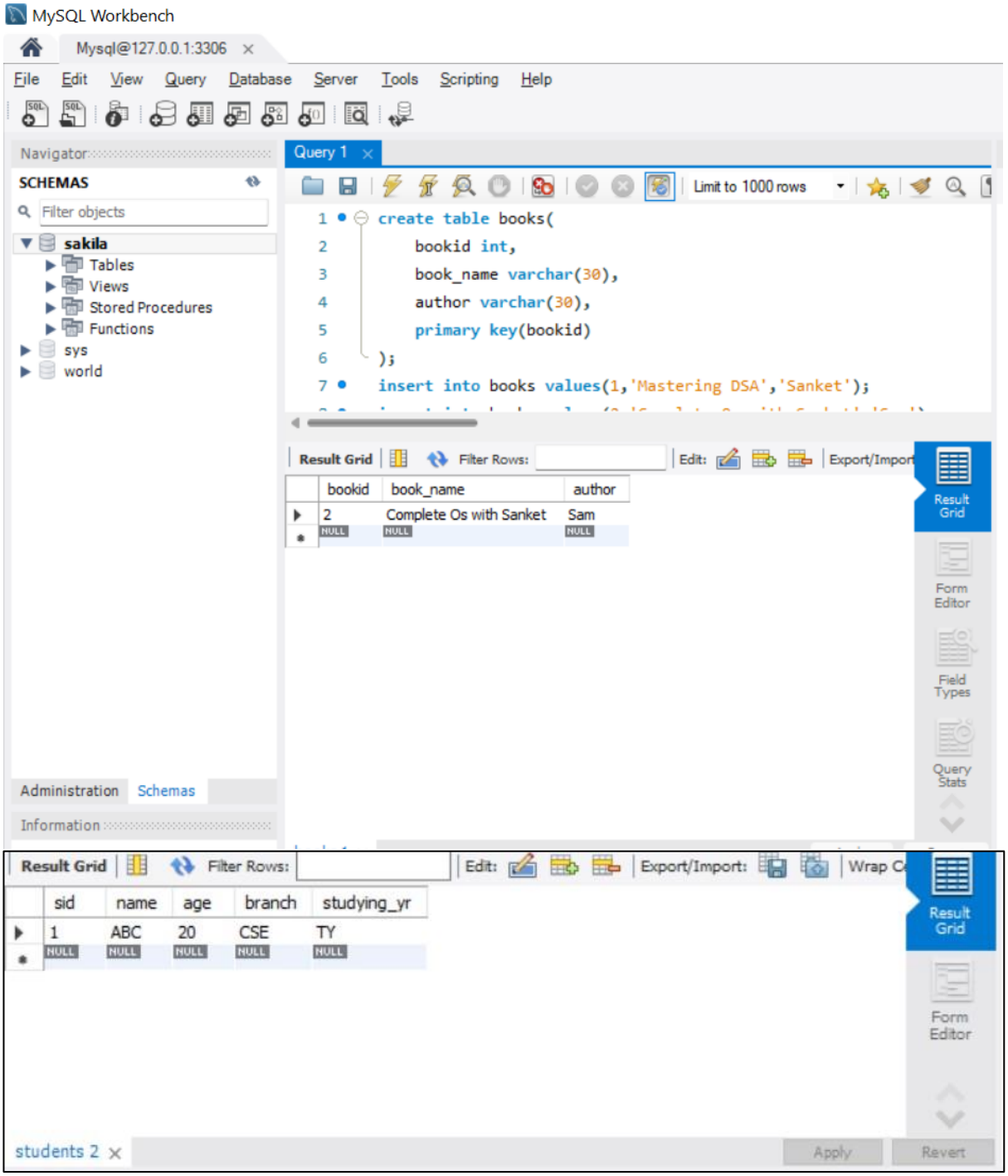




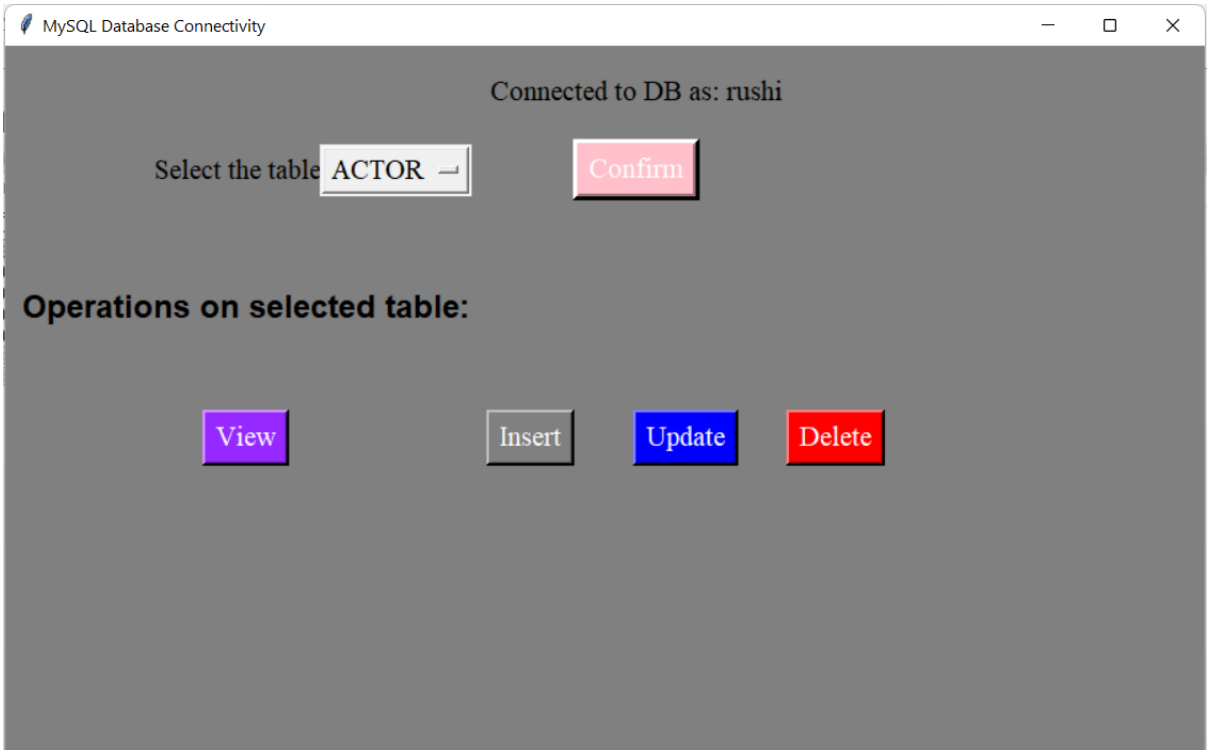
Connecting to created user:

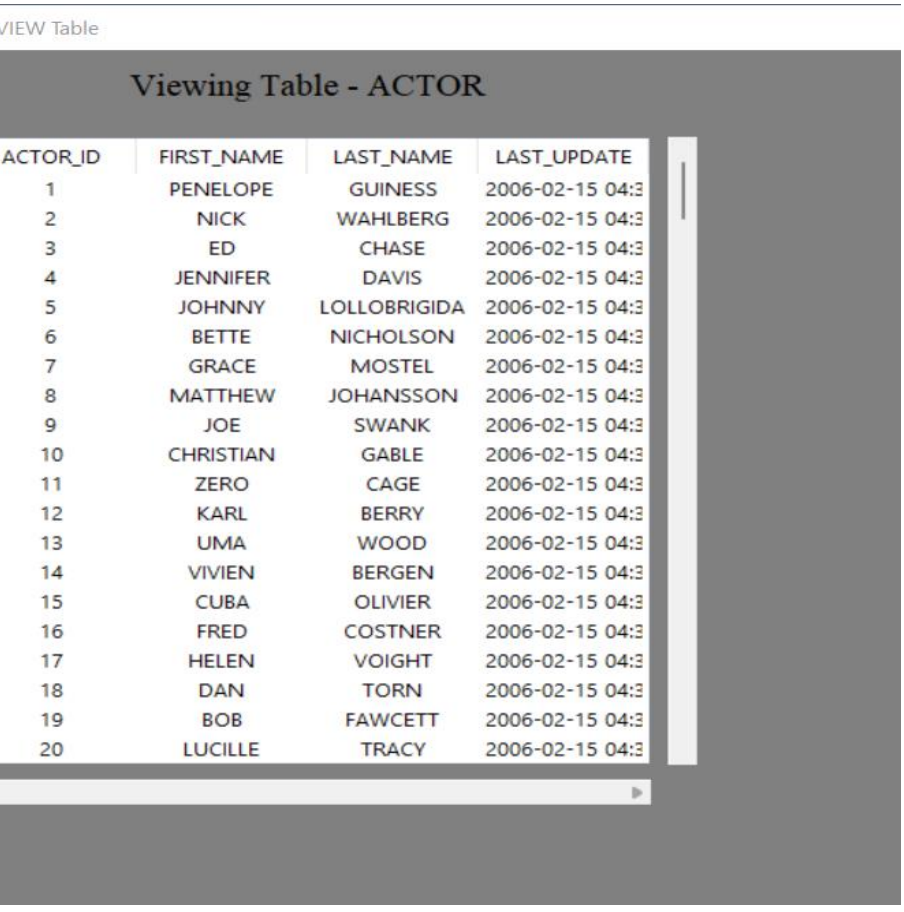

C:\Program Files\MySQL\MySQL Shell 8.0\bin\mysqlsh.exe
MySQL Shell 8.0.32
Copyright (c) 2016, 2023, Oracle and/or its affiliates.
Oracle is a registered trademark of Oracle Corporation and/or its affiliates.
Other names may be trademarks of their respective owners.
Type '\help' or '\?' for help; '\quit' to exit.
MySQL JS > \sql
Switching to SQL mode... Commands end with ;
MySQL SQL > \connect 2020BTECS00023@localhost
Creating a session to '2020BTECS00023@localhost'
Please provide the password for '2020BTECS00023@localhost': **********
Save password for '2020BTECS00023@localhost'? [Y]es/[N]o/Ne[v]er (default No): v
Fetching global names for auto-completion... Press ^C to stop.
Your MySQL connection id is 19 (X protocol)
Server version: 8.0.32 MySQL Community Server - GPL
No default schema selected; type \use <schema> to set one.
MySQL localhost:33060+ ssl SQL >

- **Result:**

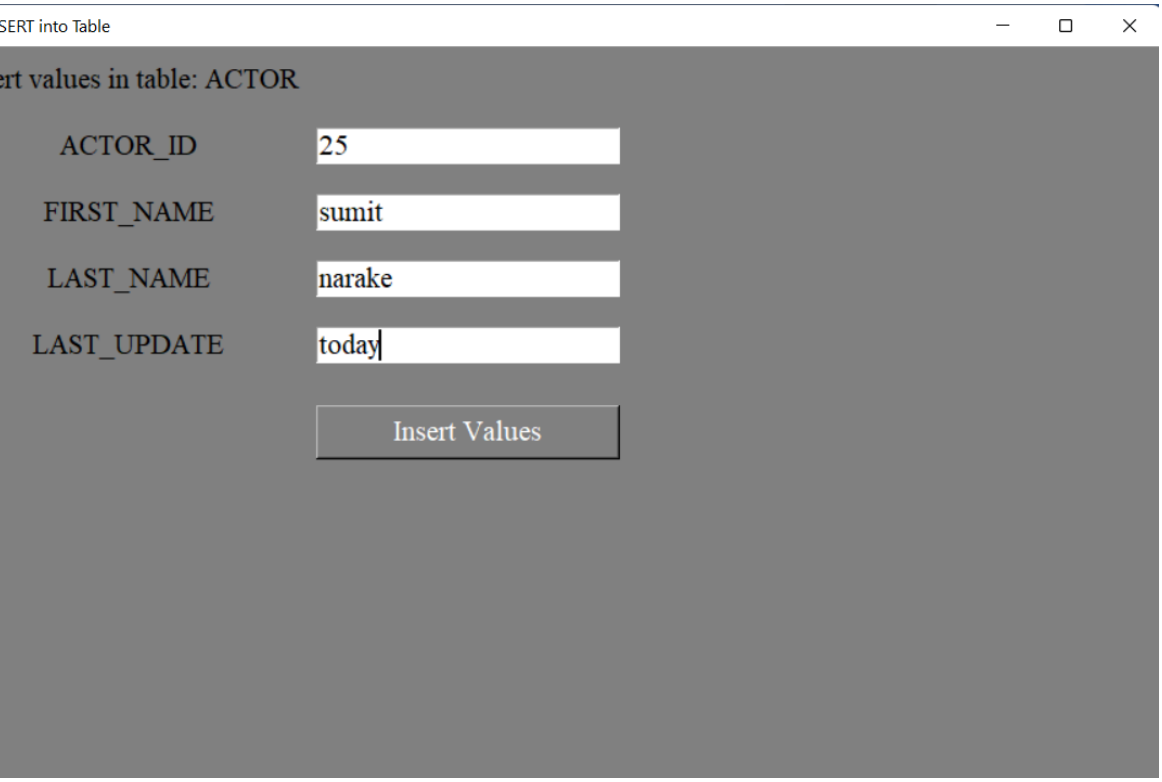


Python GUI Application:

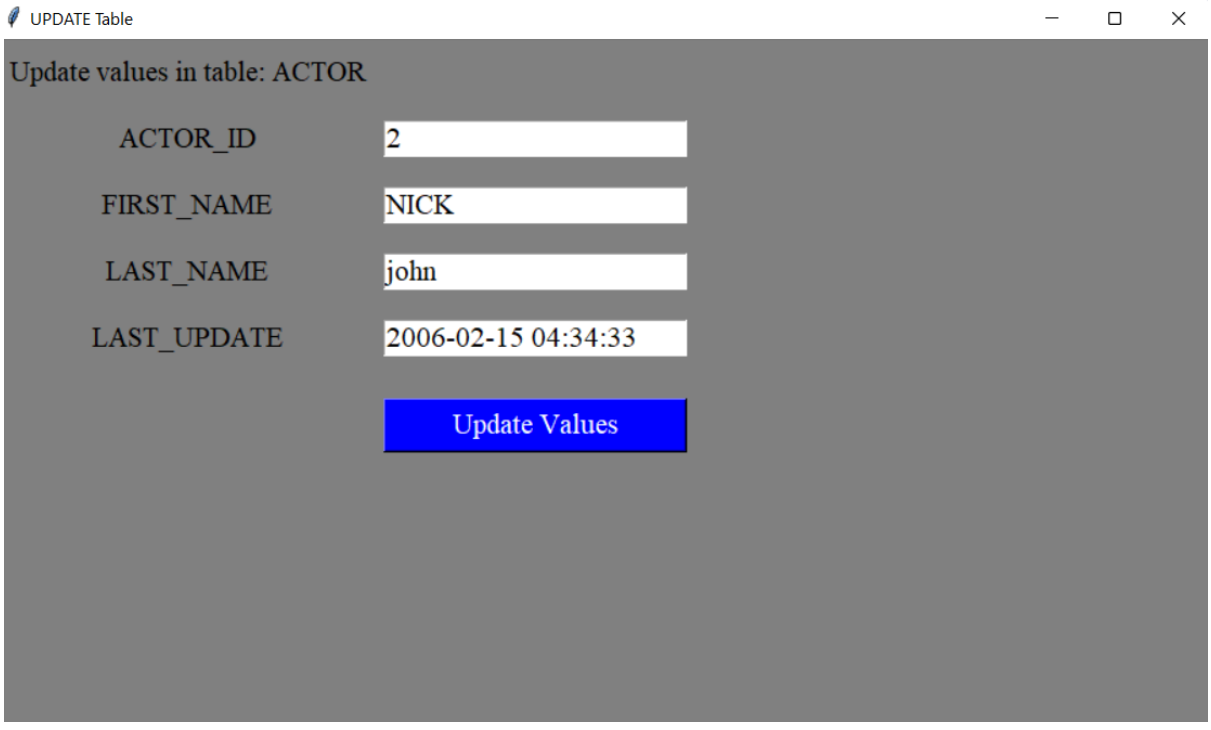




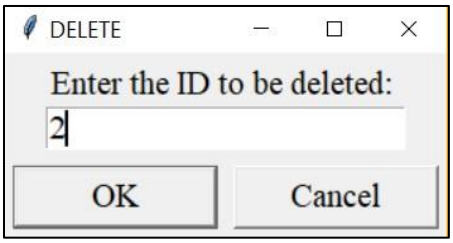
ACTOR_ID	FIRST_NAME	LAST_NAME	LAST_UPDATE
1	PENELOPE	GUINESS	2006-02-15 04:3
2	NICK	WAHLBERG	2006-02-15 04:3
3	ED	CHASE	2006-02-15 04:3
4	JENNIFER	DAVIS	2006-02-15 04:3
5	JOHNNY	LOLLOBRIGIDA	2006-02-15 04:3
6	BETTE	NICHOLSON	2006-02-15 04:3
7	GRACE	MOSTEL	2006-02-15 04:3
8	MATTHEW	JOHANSSON	2006-02-15 04:3
9	JOE	SWANK	2006-02-15 04:3
10	CHRISTIAN	GABLE	2006-02-15 04:3
11	ZERO	CAGE	2006-02-15 04:3
12	KARL	BERRY	2006-02-15 04:3
13	UMA	WOOD	2006-02-15 04:3
14	VIVIEN	BERGEN	2006-02-15 04:3
15	CUBA	OLIVIER	2006-02-15 04:3
16	FRED	COSTNER	2006-02-15 04:3
17	HELEN	VOIGHT	2006-02-15 04:3
18	DAN	TORN	2006-02-15 04:3
19	BOB	FAWCETT	2006-02-15 04:3
20	LUCILLE	TRACY	2006-02-15 04:3

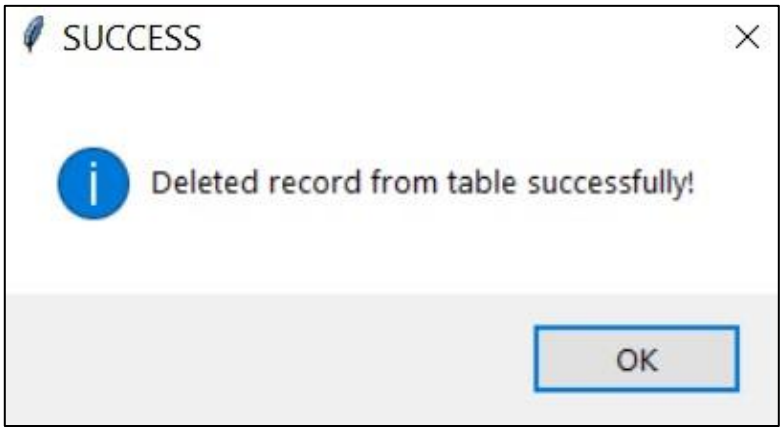

SERT into Table
ert values in table: ACTOR
ACTOR_ID
25
FIRST_NAME
sumit
LAST_NAME
narake
LAST_UPDATE
today
Insert Values

3. <u>Update:</u>


UPDATE Table
Update values in table: ACTOR
ACTOR_ID
2
FIRST_NAME
NICK
LAST_NAME
john
LAST_UPDATE
2006-02-15 04:34:33
Update Values

4. Delete:


DELETE
Enter the ID to be deleted:
2
OK
Cancel


SUCCESS
Deleted record from table successfully!
OK