

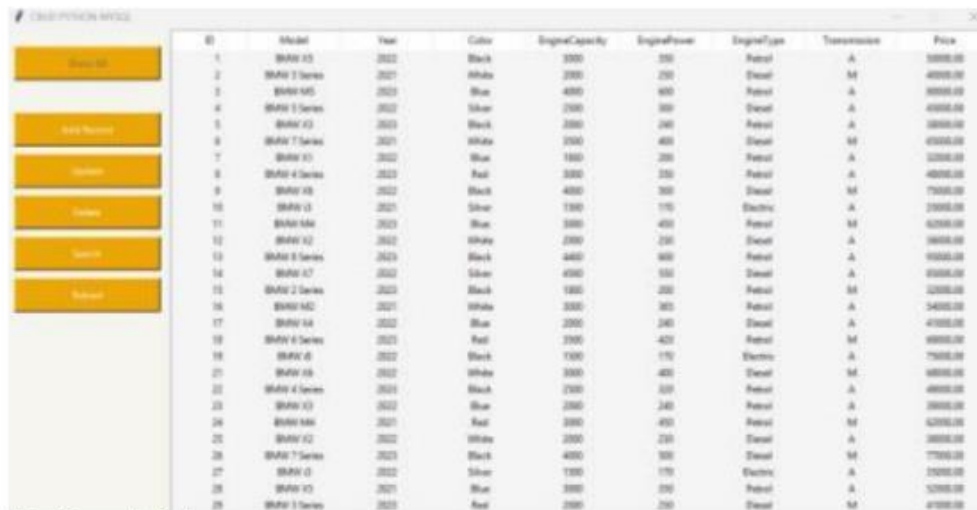
7OOP FINAL LAB TASK 6

I. PROBLEM

Step 1. Make sure you install the necessary prerequisites:

- MySQL-Connector** in Pycharm
- Activate xampp (Apache and Mysql)
- Create a database named: cars DB
- Import the sql file (carsDB.sql) to load the tables and records
- E. Create a user named(cs204) with password (asdf123) and assign full access to the database - Use this credentials when connecting to the database

Step 2. See the GUI Design of the Demo interface



ID	Model	Year	Color	EngineCapacity	EnginePower	EngineType	Transmission	Price
1	BMW X3	2022	Black	3000	250	Petrol	A	50000.00
2	BMW 3 Series	2021	White	2000	250	Diesel	M	40000.00
3	BMW M5	2020	Blue	4000	600	Petrol	A	80000.00
4	BMW 1 Series	2022	Silver	2000	150	Diesel	A	40000.00
5	BMW X3	2020	Black	3000	240	Petrol	A	50000.00
6	BMW 7 Series	2021	White	3000	400	Diesel	M	40000.00
7	BMW X1	2022	Blue	1800	200	Petrol	A	32000.00
8	BMW 4 Series	2020	Red	3000	350	Petrol	A	48000.00
9	BMW X5	2022	Black	4000	300	Diesel	M	75000.00
10	BMW i3	2021	Silver	1500	170	Electric	A	25000.00
11	BMW i4	2020	Blue	3000	400	Petrol	M	62000.00
12	BMW X2	2022	White	2000	230	Diesel	A	38000.00
13	BMW 5 Series	2020	Black	4400	600	Petrol	A	90000.00
14	BMW X7	2022	Silver	4000	550	Diesel	A	80000.00
15	BMW 2 Series	2020	Black	1800	200	Petrol	M	32000.00
16	BMW M2	2021	White	3000	300	Petrol	A	54000.00
17	BMW X4	2022	Blue	2000	240	Diesel	A	47000.00
18	BMW 6 Series	2020	Red	3000	420	Petrol	M	68000.00
19	BMW i5	2022	Black	1500	170	Electric	A	75000.00
20	BMW X6	2020	White	3000	400	Diesel	M	68000.00
21	BMW 4 Series	2020	Black	2000	220	Petrol	A	48000.00
22	BMW X3	2022	Blue	2000	240	Petrol	A	38000.00
23	BMW i4	2021	Red	3000	400	Petrol	M	62000.00
24	BMW X2	2022	White	2000	230	Diesel	A	38000.00
25	BMW 7 Series	2020	Black	4000	600	Diesel	M	77000.00
26	BMW i3	2022	Silver	1500	170	Electric	A	25000.00
27	BMW X5	2021	Blue	3000	350	Petrol	A	52000.00
28	BMW 1 Series	2020	Red	2000	200	Diesel	M	47000.00

Step 3. Try the code below:

Get the copy of the following files and load in pycharm:

Link here:

https://drive.google.com/drive/folders/1e6Eh55qLAwepf0A_I8GKh70eIW6jAxJj?usp=sharing

1. connectDb.py
2. main.py
3. window.py

Step 4. Run the program main.py (and test all the functions (CRUD)) it should be free from errors. Make a screenshot of your output as proof that you were able to configure the program properly

Step 5. Add the ff: Functions in the GUI . Choose 1 only

1. Insert a Label and Text widget that will display the ff: infos:

- a. the total Number of Records,
- b. Car Model with the Highest Price,
- c. Total Number of Manual Cars
- d. Total number of and Automatic Cars

II. SOURCE CODE

```
class Window:
    cnn = ConnectDB(host="localhost", user="cs204", password="asdf123", database="cars db")
```

```
main.py × window.py × carsDB.sql × connectDB.py ×
56
57     # NEW BUTTON (SHOW STATS)
58     self.buttonStats = tk.Button(frame1, text="Show Stats", command=self.show_stats,
59                                 width=24, height=2, background="#eba607", foreground="white")
60     self.buttonStats.place(x=10, y=350)
```

```
268     # -----
269     # SHOW STATISTICS
270     # -----
271     def show_stats(self):
272         from connectDB import get_statistics
273         total = get_statistics()
274
275         self.statsBox.delete(index1: "1.0", tk.END)
276
277         output = f"""
278 Total Number of Records: {total}
279 """
280         self.statsBox.insert(tk.END, output)
281
282         messagebox.showinfo(title: "Success", message: "Statistics Loaded Successfully!")
283
```

```
73  def get_statistics():
74      """
75      Retrieves:
76      1. total number of records
77      from table 'car'
78      """
79
80      try:
81          # DIRECT connection
82          conn = mysql.connector.connect(
83              host="localhost",
84              user="cs204",
85              password="asdf123",
86              database="cars db",
87              ssl_disabled=True
88          )
89          cursor = conn.cursor()
90
91          # Total number of records
92          cursor.execute("SELECT COUNT(*) FROM car")
93          total_records = cursor.fetchone()[0]
94
95          conn.close()
96
97          return total_records
98
99      except mysql.connector.Error as error:
100          print("Error:", error)
101          return 0, "None", 0, 0
102
```

III. SAMPLE OUTPUT

CRUD PYTHON MYSQL - BMWCars

Show All

Add Record

Update

Delete

Search

Reload

Show Stats

ID	Model	Year	Color	EngineCapacity	EnginePower	EngineType	Transmission	Price
1	BMW X5	2022	Black	3000	350	Petrol	A	50000.00
2	BMW 3 Series	2021	White	2000	250	Diesel	M	40000.00
3	BMW M5	2023	Blue	4000	600	Petrol	A	80000.00
4	BMW 5 Series	2022	Silver	2500	300	Diesel	A	45000.00
5	BMW X3	2023	Black	2000	240	Petrol	A	38000.00
6	BMW 7 Series	2021	White	3500	400	Diesel	M	65000.00
7	BMW X1	2022	Blue	1800	200	Petrol	A	32000.00
8	BMW 4 Series	2023	Red	3000	350	Petrol	A	48000.00
9	BMW X6	2022	Black	4000	500	Diesel	M	75000.00
10	BMW i3	2021	Silver	1500	170	Electric	A	35000.00
11	BMW M4	2023	Blue	3000	450	Petrol	M	62000.00
12	BMW X2	2022	White	2000	230	Diesel	A	36000.00
13	BMW 8 Series	2023	Black	4400	600	Petrol	A	95000.00
14	BMW X7	2022	Silver	4500	550	Diesel	A	85000.00
15	BMW 2 Series	2023	Black	2000	250	Petrol	M	32000.00
16	BMW M2	2021	White	3500	500	Petrol	A	54000.00
17	BMW X4	2022	Blue	2500	300	Diesel	A	41000.00
18	BMW 6 Series	2023	Red	3000	350	Petrol	M	69000.00
19	BMW i8	2022	Black	1500	170	Electric	A	75000.00
21	BMW X6	2022	White	4000	500	Diesel	M	68000.00
22	BMW 4 Series	2023	Black	3000	350	Petrol	A	49000.00

Total Number of Records: 35

Success

Statistics Loaded Successfully!

OK