

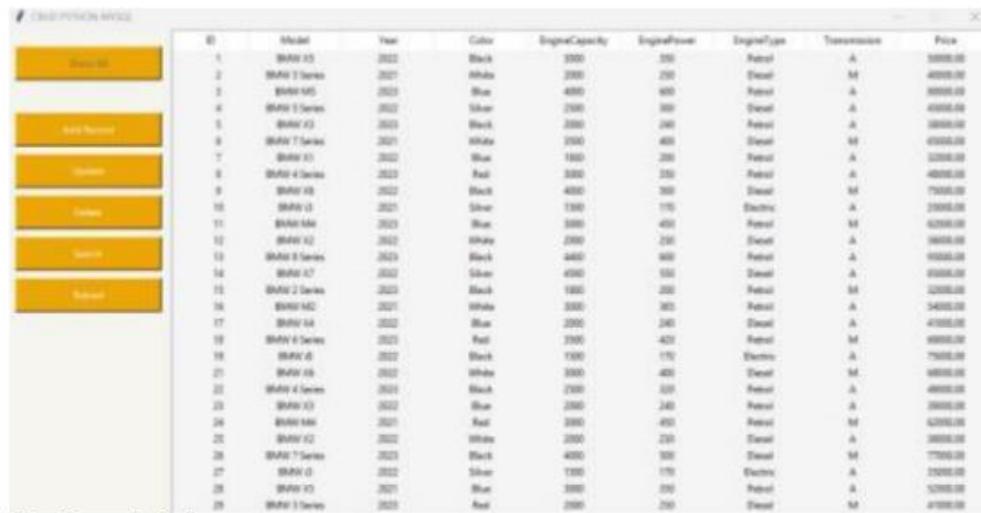
7OOP FINAL LAB TASK 6

I. PROBLEM

Step 1. Make sure you install the necessary prerequisites:

- a. MySQL-Connector in Pycharm
- b. Activatexampp (Apache and Mysql)
- c. Create a database named: cars DB
- d. 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 X5	2022	Black	3000	250	Diesel	A	50000.00
2	BMW 3 Series	2021	White	2000	180	Diesel	M	40000.00
3	BMW M5	2021	Blue	4000	300	Diesel	A	80000.00
4	BMW 5 Series	2022	Silver	2500	200	Diesel	A	45000.00
5	BMW X3	2021	Black	2000	160	Diesel	A	35000.00
6	BMW 7 Series	2021	White	3500	280	Diesel	M	60000.00
7	BMW X1	2022	Blue	1800	150	Diesel	A	22000.00
8	BMW 4 Series	2022	Red	2500	220	Diesel	A	40000.00
9	BMW X6	2022	Black	4000	300	Diesel	M	70000.00
10	BMW i3	2021	Silver	1500	110	Electric	A	25000.00
11	BMW M4	2021	Blue	3500	350	Diesel	M	65000.00
12	BMW X2	2022	White	2000	180	Diesel	A	30000.00
13	BMW 6 Series	2022	Black	4000	350	Diesel	A	55000.00
14	BMW i7	2022	Silver	4500	320	Diesel	A	85000.00
15	BMW 2 Series	2022	Black	1800	120	Diesel	M	20000.00
16	BMW M2	2021	White	3000	260	Diesel	A	54000.00
17	BMW i4	2022	Blue	2500	240	Diesel	A	41000.00
18	BMW 6 Series	2021	Red	3500	320	Diesel	M	58000.00
19	BMW i5	2022	Black	3000	170	Electric	A	75000.00
20	BMW i8	2022	White	3000	400	Diesel	M	68000.00
21	BMW 4 Series	2021	Black	2500	200	Diesel	A	48000.00
22	BMW X2	2022	Blue	2000	140	Diesel	A	38000.00
23	BMW M3	2021	Red	3500	450	Diesel	M	62000.00
24	BMW M4	2021	Red	3500	450	Diesel	A	58000.00
25	BMW X2	2022	White	2000	150	Diesel	A	38000.00
26	BMW 7 Series	2021	Black	4000	300	Diesel	M	77000.00
27	BMW G	2022	Silver	1800	110	Electric	A	28000.00
28	BMW i3	2021	Blue	2000	150	Diesel	A	52000.00
29	BMW 3 Series	2022	Red	2500	180	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/1e6Eh55qLwepf0A_I8GKh70elWjAxJj?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

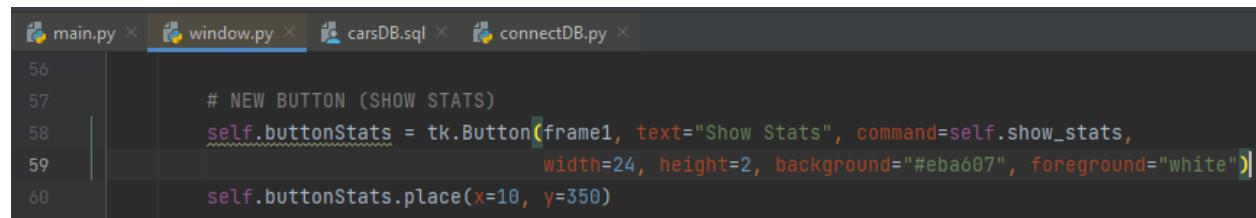
Step 5. Add the ff: Functions in the GUI . Choose 1 only

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")
```



```
56  
57  
58     # NEW BUTTON (SHOW STATS)  
59     self.buttonStats = tk.Button(frame1, text="Show Stats", command=self.show_stats,  
60                                     width=24, height=2, background="#eba607", foreground="white")  
61     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

The screenshot shows a Windows application window titled "CRUD PYTHON MYSQL - BMWCars". On the left side, there is a vertical stack of seven yellow rectangular buttons with black text: "Show All", "Add Record", "Update", "Delete", "Search", "Reload", and "Show Stats". To the right of these buttons is a table with 22 rows of data. The table has columns for ID, Model, Year, Color, EngineCapacity, EnginePower, EngineType, Transmission, and Price. The data includes various BMW models like X5, 3 Series, M5, 5 Series, X3, 7 Series, X1, 4 Series, X6, i3, M4, X2, 8 Series, X7, 2 Series, M2, X4, 6 Series, i8, X6, and 4 Series, with prices ranging from \$30,000 to \$95,000. A "Success" dialog box is overlaid on the window, containing the message "Statistics Loaded Successfully!" and an "OK" button. At the bottom left of the main window, there is a text box displaying "Total Number of Records: 35".

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			Petrol	M	32000.00
16	BMW M2	2021	White			Petrol	A	54000.00
17	BMW X4	2022	Blue			Diesel	A	41000.00
18	BMW 6 Series	2023	Red			Petrol	M	69000.00
19	BMW i8	2022	Black			Electric	A	75000.00
21	BMW X6	2022	White			Diesel	M	68000.00
22	BMW 4 Series	2023	Black			Petrol	A	49000.00