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Finals Lab Task 6.

MySQL CRUD Operations in Python Using GUI Tkinter

The screenshot displays two windows of a MySQL CRUD application for BMW cars.

Top Window: A list of 29 BMW car records. The columns are: ID, Model, Year, Color, EngineCapacity, EnginePower, EngineType, Transmission, and Price. The data includes various models like X5, 3 Series, M5, etc., with years ranging from 2021 to 2023 and prices up to 50,000.00.

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	1800	200	Petrol	M	32000.00
16	BMW M2	2021	White	3000	365	Petrol	A	54000.00
17	BMW X4	2022	Blue	2000	240	Diesel	A	41000.00
18	BMW 6 Series	2023	Red	3500	420	Petrol	M	69000.00
19	BMW i8	2022	Black	1500	170	Electric	A	75000.00
21	BMW X6	2022	White	3000	400	Diesel	M	68000.00
22	BMW 4 Series	2023	Black	2500	320	Petrol	A	49000.00
23	BMW X3	2022	Blue	2000	240	Petrol	A	39000.00
24	BMW M4	2021	Red	3000	450	Petrol	M	62000.00
25	BMW X2	2022	White	2000	230	Diesel	A	36000.00
26	BMW 7 Series	2023	Black	4000	500	Diesel	M	77000.00
27	BMW i3	2022	Silver	1500	170	Electric	A	35000.00
28	BMW X5	2021	Blue	3000	350	Petrol	A	52000.00
29	BMW 3 Series	2023	Red	2000	250	Diesel	M	41000.00

Bottom Window: A form for adding a new record. Fields include: ID (text input), Model (text input), Year (text input), Color (text input), EngineCapacity (text input), EnginePower (text input), EngineType (text input), Transmission (text input), and Price (text input). Buttons include: Show All, Add Record, Update, Delete, Search, Reload, Total Records, Save, and Cancel. A success message box is displayed in the center: "Successfully Query successfully executed. Good Work!" with an OK button.

CRUD PYTHON MYSQL - BMWCars

ID	Model	Year	Color	EngineCapacity	EnginePower	EngineType	Transmission	Price
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	1800	200	Petrol	M	32000.00
16	BMW M2	2021	White	3000	365	Petrol	A	54000.00
17	BMW X4	2022	Blue	2000	240	Diesel	A	41000.00
18	BMW 6 Series	2023	Red	3500	420	Petrol	M	69000.00
19	BMW i8	2022	Black	1500	170	Electric	A	75000.00
21	BMW X6	2022	White	3000	400	Diesel	M	68000.00
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27	BMW i3	2022	Silver	1500	170	Electric	A	35000.00
28	BMW X5	2021	Blue	3000	350	Petrol	A	52000.00
29	BMW 3 Series	2023	Red	2000	250	Diesel	M	41000.00
30	BMW M5	2022	White	4000	600	Petrol	A	82000.00
31	BMW X1	2023	Black	1800	200	Petrol	A	32000.00
32	BMW 5 Series	2021	Silver	2500	300	Diesel	A	47000.00
33	BMW X7	2022	Black	4500	550	Diesel	A	87000.00
34	BMW 2 Series	2023	Blue	1800	200	Petrol	M	34000.00
35	BMW M2	2022	Red	3000	365	Petrol	A	55000.00
36	Honda	2003	Black	27136	21873	Diesel	Z	99999.99

Show All Add Record Update Delete Search Reload Total Records Save Cancel

CRUD PYTHON MYSQL - BMWCars

ID	Model	Year	Color	EngineCapacity	EnginePower	EngineType	Transmission	Price
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
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14	BMW X7	2022	Silver	4500	550	Diesel	A	85000.00
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16	BMW M2	2021	White	3000	365	Petrol	A	54000.00
17	BMW X4	2022	Blue	2000	240	Diesel	A	41000.00
18	BMW 6 Series				420	Petrol	M	69000.00
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34	BMW 2 Series	2023	Blue	1800	200	Petrol	M	34000.00
35	BMW M2	2022	Red	3000	365	Petrol	A	55000.00
36	Toyota	2003	Black	27136	21873	Diesel	Z	99999.99

Show All Add Record Update Delete Search Reload Total Records

Successfully

Query successfully executed. Good Work!

OK

CRUD PYTHON MYSQL - BMWCars									
	ID	Model	Year	Color	EngineCapacity	EnginePower	EngineType	Transmission	Price
Show All	36	Toyota	2003	Black	27136	21873	Diesel	Z	99999.99

CRUD PYTHON MYSQL - BMWCars									
	ID	Model	Year	Color	EngineCapacity	EnginePower	EngineType	Transmission	Price
Show All	1	BMW X5	2022	Black	3000	350	Petrol	A	50000.00
Add Record	2	BMW 3 Series	2021	White	2000	250	Diesel	M	40000.00
Update	3	BMW M5	2023	Blue	4000	600	Petrol	A	80000.00
Delete	4	BMW 5 Series	2022	Silver	2500	300	Diesel	A	45000.00
Search	5	BMW X3	2023	Black	2000	240	Petrol	A	38000.00
Reload	6	BMW 7 Series	2021	White	3500	400	Diesel	M	65000.00
Total Records	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
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CODE

main.py

```
import tkinter as tk
import window

def main():
    root = tk.Tk()
    crud = window.Window(root)
    root.mainloop()

if __name__ == "__main__":
    main()
```

window.py

```
import tkinter as tk
from tkinter import font
from tkinter import ttk
from connectDB import *
import os
from tkinter import messagebox

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

    def __init__(self, root):
        self.root = root
        self.settings()
        self.create_widgets()

    def settings(self):
```

```

self.root.title("CRUD PYTHON MYSQL - BMWCars") # Title of the window
self.root.resizable(0, 0) # Disable to resizable the window

# Size and position of the window
widthScreen = self.root.winfo_screenwidth()
heightScreen = self.root.winfo_screenheight()
widthWindow = 1200
heightWindow = 600
pwidth = int(widthScreen / 2 - widthWindow / 2)
pheight = int(heightScreen / 2 - heightWindow / 2)
self.root.geometry(f"{widthWindow}x{heightWindow}+{pwidth}+{pheight} - 30")

def create_widgets(self):
    # FRAME BUTTONS
    frame1 = tk.Frame(self.root, width=200, height=600, bg="#f7f5f0")
    frame1.place(x=0, y=0)

    self.buttonInit = tk.Button(frame1, text="Show All",
                                command=self.fnInit,
                                width=24, height=2, background="#eba607",
                                foreground="white")
    self.buttonInit.place(x=10, y=20)

    self.buttonNew = tk.Button(frame1, text="Add Record",
                               command=self.InsertData,
                               width=24, height=2, background="#eba607",
                               foreground="white")
    self.buttonNew.place(x=10, y=100)

    self.buttonUpdate = tk.Button(frame1, text="Update",
                                  command=self.UpdateData,
                                  width=24, height=2,
                                  background="#eba607", foreground="white")
    self.buttonUpdate.place(x=10, y=150)

    self.buttonDelete = tk.Button(frame1, text="Delete",
                                  command=self.DeleteData,
                                  width=24, height=2,
                                  background="#eba607", foreground="white")
    self.buttonDelete.place(x=10, y=200)

    self.buttonSearch = tk.Button(frame1, text="Search",
                                  command=self.SearchData,
                                  width=24, height=2,
                                  background="#eba607", foreground="white")
    self.buttonSearch.place(x=10, y=250)

    self.buttonReload = tk.Button(frame1, text="Reload",
                                 command=self.fnInit,
                                 width=24, height=2,
                                 background="#eba607", foreground="white")
    self.buttonReload.place(x=10, y=300)

    self.buttonTotal = tk.Button(frame1, text="Total Records",
                                command=self.show_total_records,
                                width=24, height=2,

```

```

background="#eba607", foreground="white")
self.buttonTotal.place(x=10, y=350)

# FRAME INPUT 25 + 40
self.frame2 = tk.Frame(self.root, width=300, height=600,
bg="#CCCCCC")

lbl1 = tk.Label(self.frame2, text="ID", background="#CCCCCC")
lbl1.place(x=10, y=15)
self.entry1 = tk.Entry(self.frame2, width=30,
font=font.Font(size=12))
self.entry1.place(x=10, y=40)

lbl2 = tk.Label(self.frame2, text="Model:", background="#CCCCCC")
lbl2.place(x=10, y=80)
self.entry2 = tk.Entry(self.frame2, width=30,
font=font.Font(size=12))
self.entry2.place(x=10, y=105)

lbl3 = tk.Label(self.frame2, text="Year Make:", background="#CCCCCC")
lbl3.place(x=10, y=145)
self.entry3 = tk.Entry(self.frame2, width=30,
font=font.Font(size=12))
self.entry3.place(x=10, y=170)

lbl4 = tk.Label(self.frame2, text="Color:", background="#CCCCCC")
lbl4.place(x=10, y=210)
self.entry4 = tk.Entry(self.frame2, width=30,
font=font.Font(size=12))
self.entry4.place(x=10, y=235)

lbl5 = tk.Label(self.frame2, text="Engine Capacity:",
background="#CCCCCC")
lbl5.place(x=10, y=275)
self.entry5 = tk.Entry(self.frame2, width=30,
font=font.Font(size=12))
self.entry5.place(x=10, y=300)

lbl6 = tk.Label(self.frame2, text="Engne Motor:",
background="#CCCCCC")
lbl6.place(x=10, y=340)
self.entry6 = tk.Entry(self.frame2, width=30,
font=font.Font(size=12))
self.entry6.place(x=10, y=365)

lbl7 = tk.Label(self.frame2, text="Engine Type:",
background="#CCCCCC")
lbl7.place(x=10, y=405)
self.entry7 = tk.Entry(self.frame2, width=30,
font=font.Font(size=12))
self.entry7.place(x=10, y=430)

lbl8 = tk.Label(self.frame2, text="Transmission Type:",
background="#CCCCCC")
lbl8.place(x=10, y=470)
self.entry8 = tk.Entry(self.frame2, width=30,
font=font.Font(size=12))

```

```

        self.entry8.place(x=10, y=495)

        lbl9 = tk.Label(self.frame2, text="Price", background="#CCCCCC")
        lbl9.place(x=10, y=535)
        self.entry9 = tk.Entry(self.frame2, width=30,
        font=font.Font(size=12))
        self.entry9.place(x=10, y=560)

        # Frame Buttons Save and Cancel
        self.buttonSave = tk.Button(frame1, text="Save", command=self.save,
                                    width=24, height=2, background="#006400",
        foreground="black")

        self.buttonCancel = tk.Button(frame1, text="Cancel",
        command=self.cancel,
                                    width=24, height=2,
        background="#8B0000", foreground="black")

        style = ttk.Style()
        style.configure("Custom.Treeview", background="whitesmoke",
        foreground="black")

        # Table's frame of database
        self.grid = ttk.Treeview(self.root, columns=("col1", "col2", "col3",
"col4"
                                            , "col5", "col6",
"col7", "col8"),
                                style="Custom.Treeview")
        self.grid.column("#0", width=50, anchor=tk.CENTER)
        self.grid.column("col1", width=70, anchor=tk.CENTER)
        self.grid.column("col2", width=70, anchor=tk.CENTER)
        self.grid.column("col3", width=70, anchor=tk.CENTER)
        self.grid.column("col4", width=70, anchor=tk.CENTER)
        self.grid.column("col5", width=70, anchor=tk.CENTER)
        self.grid.column("col6", width=70, anchor=tk.CENTER)
        self.grid.column("col7", width=70, anchor=tk.CENTER)
        self.grid.column("col8", width=70, anchor=tk.CENTER)

        self.grid.heading("#0", text="ID")
        self.grid.heading("col1", text="Model")
        self.grid.heading("col2", text="Year")
        self.grid.heading("col3", text="Color")
        self.grid.heading("col4", text="EngineCapacity")
        self.grid.heading("col5", text="EnginePower")
        self.grid.heading("col6", text="EngineType")
        self.grid.heading("col7", text="Transmission")
        self.grid.heading("col8", text="Price")

        self.grid.place(x=200, y=0, width=999, height=599)

    def fnInit(self):
        self.grid.delete(*self.grid.get_children())
        self.cnn.connect()
        data = self.cnn.execute_select("car")
        for row in data:
            self.grid.insert("", tk.END, text=row[0],
                           values=(row[1], row[2], row[3], row[4], row[5],

```

```

row[6], row[7], row[8]))
self.cnn.disconnect()

self.buttonInit.config(state="disabled")

def cancel(self):
    self.buttonSave.place_forget()
    self.buttonCancel.place_forget()
    self.grid.place_forget()
    self.grid.place(x=200, y=0, width=999, height=599)
    self.entry1.config(state="normal")

    self.entry1.delete("0", "end")
    self.entry2.delete("0", "end")
    self.entry3.delete("0", "end")
    self.entry4.delete("0", "end")
    self.entry5.delete("0", "end")
    self.entry6.delete("0", "end")
    self.entry7.delete("0", "end")
    self.entry8.delete("0", "end")
    self.entry9.delete("0", "end")

    self.buttonUpdate.config(state="normal")
    self.buttonNew.config(state="normal")
    self.buttonDelete.config(state="normal")
    self.buttonSearch.config(state="normal")
    self.buttonReload.config(state="normal")

def save(self):

    txtid = 0
    txtmodel = ""
    txtyear = ""
    txtcolor = ""
    txtcapacity = 0
    txtpower = 0
    txttype = ""
    txttrans = ""
    txtprice = 0.0

    try:
        txtid = int(self.entry1.get())
        txtmodel = self.entry2.get()
        txtyear = self.entry3.get()
        txtcolor = self.entry4.get()
        txtcapacity = int(self.entry5.get())
        txtpower = int(self.entry6.get())
        txttype = self.entry7.get()
        txttrans = self.entry8.get()
        txtprice = float(self.entry9.get())
    except ValueError as e:
        print("All fields must be filled in")
    finally:
        self.entry1.delete("0", "end")
        self.entry2.delete("0", "end")
        self.entry3.delete("0", "end")
        self.entry4.delete("0", "end")

```

```

        self.entry5.delete("0", "end")
        self.entry6.delete("0", "end")
        self.entry7.delete("0", "end")
        self.entry8.delete("0", "end")
        self.entry9.delete("0", "end")

    self.cnn.connect()

    if txtid == "" or txtmodel == "" or txtyear == "" or txtcolor == ""
    or txtcapacity == "" or txtpower == "" or txttype == "" or txttrans == "" or
    txtprice == "":
        messagebox.showerror("Error", "All fields must be filled in.")
    else:
        if self.entry1.cget("state") == "normal":
            self.cnn.execute_insert("car", txtid, txtmodel, txtyear,
txtcolor,
                                    txtcapacity, txtpower, txttype,
txttrans, txtprice)
        elif self.entry1.cget("state") == "disabled":
            self.cnn.execute_update("car", txtid, txtmodel, txtyear,
txtcolor,
                                    txtcapacity, txtpower, txttype,
txttrans, txtprice)

    self.cnn.disconnect()

    self.grid.delete(*self.grid.get_children())
    self.fnInit()

    self.entry1.delete("0", "end")
    self.entry2.delete("0", "end")
    self.entry3.delete("0", "end")
    self.entry4.delete("0", "end")
    self.entry5.delete("0", "end")
    self.entry6.delete("0", "end")
    self.entry7.delete("0", "end")
    self.entry8.delete("0", "end")
    self.entry9.delete("0", "end")

    self.buttonUpdate.config(state="normal")
    self.buttonNew.config(state="normal")
    self.buttonDelete.config(state="normal")
    self.buttonSearch.config(state="normal")
    self.buttonReload.config(state="normal")

    self.buttonSave.place_forget()
    self.buttonCancel.place_forget()
    self.grid.place_forget()
    self.grid.place(x=200, y=0, width=999, height=599)

def InsertData(self):
    self.grid.place(x=500, y=0, width=699, height=599)
    self.frame2.place(x=200, y=0)
    self.buttonSave.place(x=10, y=495)
    self.buttonCancel.place(x=10, y=545)

    self.buttonUpdate.config(state="disabled")

```

```

        self.buttonNew.config(state="disabled")
        self.buttonDelete.config(state="disabled")
        self.buttonSearch.config(state="disabled")
        self.buttonReload.config(state="disabled")

    def UpdateData(self):

        selection = self.grid.selection()
        if selection:
            self.grid.place(x=500, y=0, width=699, height=599)
            self.frame2.place(x=200, y=0)
            self.buttonSave.place(x=10, y=495)
            self.buttonCancel.place(x=10, y=545)

            self.buttonUpdate.config(state="disabled")
            self.buttonNew.config(state="disabled")
            self.buttonDelete.config(state="disabled")
            self.buttonSearch.config(state="disabled")
            self.buttonReload.config(state="disabled")

        id_selectioned = self.grid.item(selection) ['text']
        values = self.grid.item(selection) ['values']
        if values:
            value_col_model = values[0]
            value_col_year = values[1]
            value_col_color = values[2]
            value_col_engineCapacity = values[3]
            value_col_enginePower = values[4]
            value_col_engineType = values[5]
            value_col_transmission = values[6]
            value_col_price = values[7]

            self.entry1.insert(0, id_selectioned)
            self.entry2.insert(0, value_col_model)
            self.entry3.insert(0, value_col_year)
            self.entry4.insert(0, value_col_color)
            self.entry5.insert(0, value_col_engineCapacity)
            self.entry6.insert(0, value_col_enginePower)
            self.entry7.insert(0, value_col_engineType)
            self.entry8.insert(0, value_col_transmission)
            self.entry9.insert(0, value_col_price)

            self.entry1.config(state="disabled")
        else:
            messagebox.showerror("Error", "You must select a data")

    def DeleteData(self):
        selection = self.grid.selection()
        if selection:
            id_selectioned = self.grid.item(selection) ['text']
            self.cnn.connect()
            self.cnn.execute_delete("car", id_selectioned)
            self.cnn.disconnect()
            self.grid.delete(*self.grid.get_children())
            self.fnInit()

```

```

def SearchData(self):
    new_window = tk.Toplevel(self.root)
    new_window.title("Search")
    new_window.resizable(0, 0)

    # Size and position of the window
    widthScreen = self.root.winfo_screenwidth()
    heightScreen = self.root.winfo_screenheight()
    widthWindow = 700
    heightWindow = 120
    pwidth = int(widthScreen / 2 - widthWindow / 2)
    pheight = int(heightScreen / 2 - heightWindow / 2)
    new_window.geometry(f"{widthWindow}x{heightWindow}+{pwidth}+{pheight}
- 60}")

    # Radio button selection variable
    radio_var = tk.StringVar()

    # Function to handle the selected option and perform the search
    def show_search_data(i, search_text):
        found_items = []
        all_items_values = []

        self.cnn.connect()
        data = self.cnn.execute_select("car")  # Fetch all records
        for row in data:
            all_items_values.append(list(row))  # Convert to list to
allow indexing
        self.cnn.disconnect()

        # Loop through records and check if the search text matches any
field
        for j in range(len(all_items_values)):
            if search_text.lower() ==
str(all_items_values[j][i]).lower():
                found_items.append(all_items_values[j])

        self.grid.delete(*self.grid.get_children())  # Clear previous
results

        # Insert the found records into the table
        for data in found_items:
            self.grid.insert('', tk.END, text=data[0], values=data[1:])

    new_window.destroy()

    # Function to get selected search option (field)
    def get_selected_option():
        selected_option = radio_var.get()
        search_text = entry_search.get().strip()

        # Perform the search based on the selected field
        if selected_option == "option1":  # Search by ID
            show_search_data(0, search_text)
        elif selected_option == "option2":  # Search by Model
            show_search_data(1, search_text)
        elif selected_option == "option3":  # Search by Year

```

```

        show_search_data(2, search_text)
    elif selected_option == "option4": # Search by Price
        show_search_data(8, search_text)
    else:
        show_search_data(0, search_text) # Default search by ID

    # Radio buttons for search fields
    radio_button1 = ttk.Radiobutton(new_window, text="ID",
variable=radio_var, value="option1",
                                         style="NoFocus.TRadiobutton")
    radio_button1.place(x=30, y=20)

    radio_button2 = ttk.Radiobutton(new_window, text="Model",
variable=radio_var, value="option2",
                                         style="NoFocus.TRadiobutton")
    radio_button2.place(x=80, y=20)

    radio_button3 = ttk.Radiobutton(new_window, text="Year",
variable=radio_var, value="option3",
                                         style="NoFocus.TRadiobutton")
    radio_button3.place(x=160, y=20)

    radio_button4 = ttk.Radiobutton(new_window, text="Price",
variable=radio_var, value="option4")
    radio_button4.place(x=240, y=20)

    # Search input entry
    entry_search = tk.Entry(new_window, width=30,
font=font.Font(size=10))
    entry_search.place(x=320, y=20)

    # Button to execute search
    button_get_selected = ttk.Button(new_window, text="Search",
command=get_selected_option)
    button_get_selected.place(x=550, y=20)

def show_total_records(self):
    try:
        # Connect to database
        self.cnn.connect()
        data = self.cnn.execute_select("car") # Replace "car" with your
table name if needed
        total = len(data) if data else 0
    except Exception as e:
        messagebox.showerror("Database Error", f"Error fetching total
records:\n{e}")
        return
    finally:
        self.cnn.disconnect()

    # Popup window for total records
    total_window = tk.Toplevel(self.root)
    total_window.title("Total Records")
    total_window.resizable(0, 0)

    widthScreen = self.root.winfo_screenwidth()
    heightScreen = self.root.winfo_screenheight()

```

```

widthWindow = 300
heightWindow = 100
pwidth = int(widthScreen / 2 - widthWindow / 2)
pheight = int(heightScreen / 2 - heightWindow / 2)

total_window.geometry(f"{widthWindow}x{heightWindow}+{pwidth}+{pheight} - 60}")

lbl_total = tk.Label(total_window, text=f"Total Records: {total}",
font=("Arial", 16))
lbl_total.pack(expand=True)

style = ttk.Style()
style.configure("TRadiobutton", font=("Helvetica", 12))
style.configure("NoFocus.TRadiobutton",
highlightbackground=new_window.cget("background"))

radio_var = tk.StringVar()

radio_button1 = ttk.Radiobutton(new_window, text="Id",
variable=radio_var,
value="option1",
style="NoFocus.TRadiobutton")
radio_button1.place(x=30, y=12)

radio_button2 = ttk.Radiobutton(new_window, text="Model",
variable=radio_var,
value="option2",
style="NoFocus.TRadiobutton")
radio_button2.place(x=80, y=12)

radio_button3 = ttk.Radiobutton(new_window, text="Year",
variable=radio_var,
value="option3",
style="NoFocus.TRadiobutton")
radio_button3.place(x=160, y=12)

radio_button4 = ttk.Radiobutton(new_window, text="Price",
variable=radio_var,
value="option4")
radio_button4.place(x=240, y=12)

entry_search = tk.Entry(new_window, width=30,
font=font.Font(size=10))
entry_search.place(x=320, y=14)

button_get_selected = ttk.Button(new_window, text="Get Selected
Option",
command=lambda:
get_selected_option(entry_search.get()))
button_get_selected.place(x=550, y=11)

```

```
connectDB.py
import mysql.connector
from tkinter import messagebox

class ConnectDB:
    def __init__(self, host, user, password, database):
        self.host = "localhost"
        self.user = "cs204"
        self.password = "asdf123"
        self.database = "carsdb"
        self.connectDB = None

    def connect(self):
        try:
            self.connectDB = mysql.connector.connect(
                host=self.host,
                user=self.user,
                password=self.password,
                database=self.database,
            )
            print("Successfully connection to the database!")
        except mysql.connector.Error as error:
            print("Something went wrong connecting to the database: ", error)

    def disconnect(self):
        if self.connectDB:
            self.connectDB.close()
            print("Successfully disconnecting to the database!")

    def execute_insert(self, table, id, model, year, color, capacity, power,
type, transmission, price):
        sql = f"INSERT INTO {table}(id, model, year, color, engineCapacity,
enginePower, engineType, transmission, price) VALUES({id},'{model}', '{year}', '{color}', {capacity}, {power}, '{type}', '{transmission}', {price} )"
        self.commit_to_db(sql)

    def execute_delete(self, table, id):
        sql = f"DELETE FROM {table} WHERE id = {id}"
        self.commit_to_db(sql)

    def execute_update(self, table, id, model, year, color, capacity, power,
engineType, transmission, price):
        sql = f"UPDATE {table} SET model='{model}', year='{year}', color='{color}', engineCapacity={capacity}, enginePower={power},
engineType='{engineType}', transmission='{transmission}', price={price} WHERE id={id}"
        cursor = self.connectDB.cursor()
        self.commit_to_db(sql)

    def commit_to_db(self, sql):
        cursor = self.connectDB.cursor()
        try:
            cursor.execute(sql)
            self.connectDB.commit()
            print("Query successfully executed")
            messagebox.showinfo("Successfully", "Query successfully executed.")
```

```
Good Work!")
    except mysql.connector.Error as error:
        self.connectDB.rollback()
        print("Error executing the query:", error)
        messagebox.showerror("Error", "Duplicate ID entry, please try
again!")

def execute_select(self, table):
    sql = f"SELECT * FROM {table}"
    cursor = self.connectDB.cursor()
    try:
        cursor.execute(sql)
        rows = cursor.fetchall()
        return rows
    except mysql.connector.Error as error:
        print("Error executing the query:", error)
        return []

def __str__(self):
    data = self.execute_select("car")
    aux = ""
    for row in data:
        aux += str(row) + "\n"
    return aux
```