

## ADD

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
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
30	BMW M5	2022	White	3500	420	Petrol	A	82000.00
31	BMW X1	2023	Black	2000	240	Diesel	M	32000.00
32	BMW 5 Series	2021	Silver	1800	200	Petrol	M	47000.00
33	BMW X7	2022	Black	4000	550	Diesel	A	87000.00
34	BMW 2 Series	2023	Blue	2500	320	Petrol	A	34000.00
35	BMW M2	2022	Red	2000	250	Diesel	M	55000.00
36	WompWomp	2006	Purple	1500	170	Electric	A	99999.99

Result:  
Total Records: 35

**Save**    **Cancel**

**Successfully**  
Query successfully executed. Good Work!

CRUD PYTHON MYSQL - BMWCars

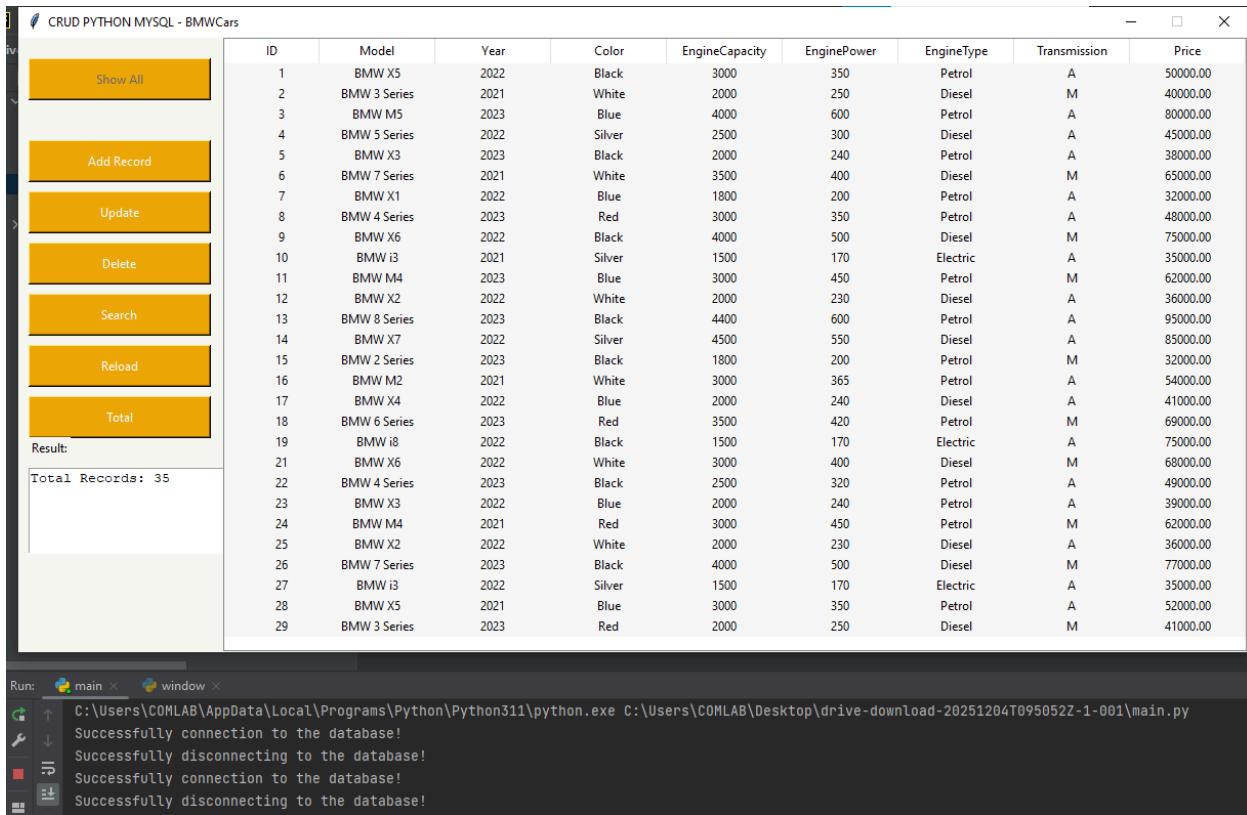
ID	Model	Year	Color	EngineCapacity	EnginePower	EngineType	Transmission	Price
7	BMW X1	2022	Blue	1800	200	Petrol	A	32000.00
8	BMW 4 Series	2023	Red	3000	350	Petrol	A	48000.00
9	BMW X6	2022	Black	4000	500	Diesel	M	75000.00
10	BMW i3	2021	Silver	1500	170	Electric	A	35000.00
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26	BMW 7 Series	2023	Black	4000	500	Diesel	M	77000.00
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33	BMW X7	2022	Black	4000	550	Diesel	A	87000.00
34	BMW 2 Series	2023	Blue	2500	320	Petrol	A	34000.00
35	BMW M2	2022	Red	2000	250	Diesel	M	55000.00

Result:  
Total Records: 35

**Save**    **Cancel**

**Successfully**  
Query successfully executed. Good Work!

## UPDATE



## Main

```

1-001 C:\Users\COMLAB\Desktop\drive-download-20251204T095052Z-1-001 - main.py
main.py
  main.py x  connectDB.py x  window.py x
1  import tkinter as tk
2  import window
3
4  usage
5  def main():
6      root = tk.Tk()
7      crud = window.Window(root)
8      root.mainloop()
9
10 if __name__ == "__main__":
11     main()

```

## connectDB

```
import mysql.connector
from tkinter import messagebox

class ConnectDB:
    def __init__(self, host, user, password, database):
        self.host = host
        self.user = user
        self.password = password
        self.database = database
        self.connectDB = None

    def connect(self):
        try:
            self.connectDB = mysql.connector.connect(
                host=self.host,
                user=self.user,
                password=self.password,
                database=self.database,
                ssl_disabled=True
            )
            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 au

```

### 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="root", password="",
                    database="cars")

    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,

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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",
command=self.show_total_records,
width=24, height=2, background="#eba607",
foreground="white")
self.buttonTotal.place(x=10, y=350)

self.lblResult = tk.Label(frame1, text="Result:", bg="#f7f5f0",
fg="black")
self.lblResult.place(x=10, y=390)

self.txtResult = tk.Text(frame1, width=24, height=5)
self.txtResult.place(x=10, y=420)

# 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)

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    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")
        self.buttonTotal.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,

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```

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

def UpdateData(self):

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```

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")
    self.buttonTotal.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()

#Total
def show_total_records(self):
    self.cnn.connect()
    data = self.cnn.execute_select("car")
    total = len(data)
    self.cnn.disconnect()

    self.txtResult.delete("1.0", tk.END)
    self.txtResult.insert(tk.END, f"Total Records: {total+1}")

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 = 50
    pwidth = int(widthScreen / 2 - widthWindow / 2)
    pheight = int(heightScreen / 2 - heightWindow / 2)
    new_window.geometry(f"{widthWindow}x{heightWindow}+{pwidth}+{pheight} - 60")

    def show_search_data(i, search_text):
        found_items = []
        all_items_values = []

        self.cnn.connect()
        data = self.cnn.execute_select("car")
        for row in data:
            all_items_values.append(list(row))
        self.cnn.disconnect()

        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])

        print(all_items_values)
        self.grid.delete(*self.grid.get_children())
        print(found_items)
        for data in found_items:
            self.grid.insert(' ', tk.END, text=data[0], values=data[1:])

    new_window.destroy()

def get_selected_option(search_text):

```

```

selected_option = radio_var.get()

if (selected_option == "opcion1"):
    show_search_data(0, search_text)
elif (selected_option == "opcion2"):
    show_search_data(1, search_text)
elif (selected_option == "opcion3"):
    show_search_data(2, search_text)
elif (selected_option == "opcion4"):
    show_search_data(8, search_text)
else:
    show_search_data(0, search_text)

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)
```