

EEI3372

Programming in Python

Mini Project

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Introduction about Project

This project should implement a cab services system using a python programming language. So this system has some functionalities. There are

- Add a new vehicle to the system
- Remove a vehicle from the system
- Assign a job (hire)
- Release from an assigned job(hire) after completing
- See available vehicles in each category

The above requirements should implement in our system.

In this system, I use a graphical user interface. So I use the “Tkinter” option.

Tkinter is a way of creating GUI in python. When downloading python, The Tkinter option automatically installs. First should import the Tkinter for our project. Then can get a blank GUI Interface. After that coding relevant source code.

Cab service System

Cab Service System

Vechical Records

vechical owner:

Type of vechicat:

State of vechicat:

count passange

max weight:

Max length

Add

Delete

vechical number	vechical owner	Type of vechical	State of vechical	count passengers	max weight	Max length
12180247	Kamal	Car 1	AC	3	no	no
12180234	Nimal	Car 2	NonAC	4	no	no
12112322	kasun	Lorry	no	no	2000kg	no
12180248	Saman	Car 2	AC	4	no	no
12180249	Silva	Three wheel 1	no	3	no	no
12180250	Perera	Three wheel 2	no	3	no	no
12180251	Fereando	Three wheel 3	no	3	no	no
12180789	Amal	Trunks	no	no	no	12ft

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Cab service System

Cab Service System

Vechical Records

vechical owner:

Amal

Type of vechicat:

Lorry

State of vechicat:

no

count passange

no

max weight:

2000kg

Max length

nd

Add

Delete

vechical number	vechical owner	Type of vechical	State of vechical	count passengers	max weight	Max length
12180247	Kamal	Car 1	AC	3	no	no
12180234	Nimal	Car 2	NonAC	4	no	no
12112322	kasun	Lorry	no	no	2000kg	no
12180248	Saman	Car 2	AC	4	no	no
12180249	Silva	Three wheel 1	no	3	no	no
12180250	Perera	Three wheel 2	no	3	no	no
12180251	Fereando	Three wheel 3	no	3	no	no
12180789	Amal	Trunks	no	no	no	12ft
	Amal	Lorry	no	no	2000kg	no

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Code

```
student.py - C:\Users\ITEC\Desktop\python projects\student.py (3.10.4)
File Edit Format Run Options Window Help

import tkinter as tk
from tkinter import Button, StringVar, Widget, ttk
from tkinter.constants import END

win = tk.Tk()
win.geometry("1350x700+0+0")
win.title("Cab service System")

#Background Color
win.config(bg="lightgray")

#Adding some style
style = ttk.Style()

#Pick a theme
style.theme_use("default")

style.configure("Treeview",
    background="white",
    foreground="black",
    rowheight=25,
    fieldbackground="white")

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```

```
student.py - C:\Users\ITEC\Desktop\python projects\student.py (3.10.4)
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#Change selected color
style.map(
    "Treeview",
    background=[("selected", "darkred")]
)

#Top Menu

title_label = tk.Label(
    win,
    text="Cab Service System",
    font=("Arial", 20, "bold"),
    padx=15,
    pady=15,
    border=0,
    relief=tk.GROOVE,
    bg="teal",
    foreground="white"
)
title_label.pack(side=tk.TOP, fill=tk.X)

#Left Menu

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```

```
student.py - C:\Users\ITEC\Desktop\python projects\student.py (3.10.4)
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#Left Menu

detail_frame = tk.LabelFrame(
    win, text="Vechical Records",
    font=("Arial", 14),
    bg="lightgray",
    foreground="black",
    relief=tk.GROOVE
)
detail_frame.place(x=40, y=90, width=480, height=570)

#Data Frame

data_frame = tk.Frame(
    win,
    bg="teal",
    relief=tk.GROOVE
)
data_frame.place(x=490, y=98, width=830, height=565)

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```

```
student.py - C:\Users\ITEC\Desktop\python projects\student.py (3.10.4)
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#Label with Entry

id_lab = tk.Label(
    detail_frame,
    text="vechical number:",
    font=("Arial", 8),
    bg="lightgray",
    foreground="black"
)
id_lab.place(x=20, y=15)

#entry
id_ent = tk.Entry(
    detail_frame,
    bd=1,
    font=("arial", 10),
    bg="white",
    foreground="black",
)
id_ent.place(x=110, y=17, width=250, height=30)

owner_lab = tk.Label(
    detail_frame
```

```
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owner_lab.place(x=20, y=15)

#entry
owner_ent = tk.Entry(
    detail_frame, |
    bd=1,
    font=("arial", 10),
    bg="white",
    foreground="black",
)
owner_ent.place(x=110, y=17, width=250, height=30)

#2
name_lab = tk.Label(
    detail_frame,
    text="Type of vechical:",
    font=("Arial", 8),
    bg="lightgray",
    foreground="black"
)

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```

```
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name_lab.place(x=20, y=65)

#entry
name_ent = tk.Entry(
    detail_frame,
    bd=1,
    font=("arial", 10),
    bg="white",
    foreground="black",
)
name_ent.place(x=110, y=65, width=250, height=30)

#3
state_lab = tk.Label(
    detail_frame,
    text="State of vechical:",
    font=("Arial", 8),
    bg="lightgray",
    foreground="black"
)
state_lab.place(x=20, y=113)

#entry
```

```
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state_lab.place(x=20, y=113)

#entry
state_ent = ttk.Combobox(
    detail_frame,
    font=("arial", 16),
)
state_ent["values"] = ("AC", "non AC")
state_ent.place(x=110, y=113, width=250, height=30)

#4
num_lab = tk.Label(
    detail_frame,
    text="count passangers",
    font=("Arial", 8),
    bg="lightgray",
    foreground="black"
)
num_lab.place(x=30, y=161)

#entry
num_ent = tk.Entry(
    detail_frame,
    bd=1,
    font=("arial", 16),
    bg="white",
    foreground="black",
)
num_ent.place(x=110, y=161, width=250, height=30)

#5
max_lab = tk.Label(
    detail_frame,
    text="max weight:",
    font=("Arial", 8),
    bg="lightgray",
    foreground="black"
)
max_lab.place(x=20, y=209)

#entry
max_ent = tk.Entry(
    detail_frame,
    bd=1,
    font=("arial", 16),
    bg="white",
    foreground="black",
)
max_ent.place(x=110, y=209, width=250, height=30)

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```

```
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num_ent = tk.Entry(
    detail_frame,
    bd=1,
    font=("arial", 16),
    bg="white",
    foreground="black",
)
num_ent.place(x=110, y=161, width=250, height=30)

#5
max_lab = tk.Label(
    detail_frame,
    text="max weight:",
    font=("Arial", 8),
    bg="lightgray",
    foreground="black"
)
max_lab.place(x=20, y=209)

#entry
max_ent = tk.Entry(
    detail_frame,
    bd=1,
    font=("arial", 16),
    bg="white",
    foreground="black",
)
max_ent.place(x=110, y=209, width=250, height=30)

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```



```
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#Database frame

main_frame = tk.Frame(
    data_frame,
    bg="teal",
    bd=2,
    relief=tk.GROOVE
)
main_frame.pack(fill=tk.BOTH, expand=True)

y_scroll = tk.Scrollbar(main_frame, orient=tk.VERTICAL)
x_scroll = tk.Scrollbar(main_frame, orient=tk.HORIZONTAL)

#Treeview database

cab_table = ttk.Treeview(main_frame, columns=(
    "vehical number", "vehical owner", "Type of vehical", "State of vehical", "
), yscrollcommand=y_scroll.set, xscrollcommand=x_scroll.set)

y_scroll.config(command=cab_table.yview)
x_scroll.config(command=cab_table.xview)

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```

```
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cab_table.heading("vehical number", text="vehical number")
cab_table.heading("vehical owner", text="vehical owner")
cab_table.heading("Type of vehical", text="Type of vehical")
cab_table.heading("State of vehical", text="State of vehical")
cab_table.heading("count passangers", text="count passangers")
cab_table.heading("max weight", text="max weight")
cab_table.heading("Max length", text="Max length")

cab_table["show"] = "headings"

cab_table.column("vehical number", width=100)
cab_table.column("vehical owner", width=100)
cab_table.column("Type of vehical", width=100)
cab_table.column("State of vehical", width=100)
cab_table.column("count passangers", width=100)
cab_table.column("max weight", width=100)
cab_table.column("Max length", width=100)

cab_table.pack(fill=tk.BOTH, expand=True)

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```



```
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cab_table.pack(fill=tk.BOTH, expand=True)

#Default data

data=[
    ["12180247", "Kamal", "Car 1", "AC", "3", "no", "no"],
    ["12180234", "Nimal", "Car 2", "NonAC", "4", "no", "no"],
    ["12112322", "kasun", "Lorry", "no", "no", "2000kg", "no"],
    ["12180248", "Saman", "Car 2", "AC", "4", "no", "no"],
    ["12180249", "Silva", "Three wheel 1", "no", "3", "no", "no"],
    ["12180250", "Perera", "Three wheel 2", "no", "3", "no", "no"],
    ["12180251", "Fereando", "Three wheel 3", "no", "3", "no", "no"],
    ["12180789", "Amal", "Trunks", "no", "no", "no", "12ft"],
]

#Create stripped row tags
cab_table.tag_configure("oddrow", background="white")
cab_table.tag_configure("evenrow", background="#00AEAE")

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```

```
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#Functions

#Add Function
def add_record():
    cab_table.tag_configure("oddrow", background="white")
    cab_table.tag_configure("evenrow", background="#00AEAE")

    global count
    if count % 2 == 0:
        cab_table.insert(parent="", index="end", iid=count, text="", values=(
            id_ent.get(),
            owner_ent.get(),
            name_ent.get(),
            state_ent.get(),
            num_ent.get(),
            max_ent.get(),
            len_ent.get(),
        ),
            tags=("evenrow"))

    count += 1

Type here to search
```

```
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cab_table.insert(parent="", index="end", iid=count, text="", values=(
    id_ent.get(),
    owner_ent.get(),
    name_ent.get(),
    state_ent.get(),
    num_ent.get(),
    max_ent.get(),
    len_ent.get(),

),
    tags=("oddrow")
)
count += 1

#Delete All Function
def delete_all():
    for record in cab_table.get_children():
        cab_table.delete(record)

#Delete One Function
def delete_one():
```

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hire.py - C:\Users\ITEC\Desktop\python projects\hire.py (3.10.4)

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```
import tkinter as tk
from tkinter import Button, StringVar, Widget, ttk
from tkinter.constants import END
```

```
win = tk.Tk()
win.geometry("1350x700+0+0")
win.title("Hiring for vehical")
```

```
#Background Color
win.config(bg="lightgray")
```

```
#Adding some style
style = ttk.Style()
```

```
#Pick a theme
style.theme_use("default")
```

```
style.configure("Treeview",
    background="white",
    foreground="black",
    rowheight=25,
    fieldbackground="white"
```

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hire.py - C:\Users\ITEC\Desktop\python projects\hire.py (3.10.4)

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```
#Change selected color
style.map(
    "Treeview",
    background=[("selected", "darkred")]
)
```

```
#Top Menu
```

```
title_label = tk.Label(
    win,
    text="Hiring information",
    font=("Arial", 20, "bold"),
    padx=15,
    pady=15,
    border=0,
    relief=tk.GROOVE,
    bg="teal",
    foreground="white"
)
```

```
title_label.pack(side=tk.TOP, fill=tk.X)
```

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Ln: 8 Col: 0

hire.py - C:\Users\JTEC\Desktop\python projects\hire.py (3.10.4)
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```
#Left Menu

detail_frame = tk.LabelFrame(
    win, text="job Records",
    font=("Arial", 14),
    bg="lightgray",
    foreground="black",
    relief=tk.GROOVE
)
detail_frame.place(x=40, y=90, width=420, height=570)

#Data Frame

data_frame = tk.Frame(
    win,
    bg="teal",
    relief=tk.GROOVE
)
data_frame.place(x=490, y=98, width=830, height=565)
```

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Ln: 8 Col: 0

hire.py - C:\Users\JTEC\Desktop\python projects\hire.py (3.10.4)
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```
#Label with Entry

id_lab = tk.Label(
    detail_frame,
    text="vechical number:",
    font=("Arial", 8),
    bg="lightgray",
    foreground="black"
)
id_lab.place(x=20, y=15)

#entry
id_ent = tk.Entry(
    detail_frame,
    bd=1,
    font=("arial", 10),
    bg="white",
    foreground="black",
)
id_ent.place(x=110, y=17, width=250, height=30)
```

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Ln: 8 Col: 0

hire.py - C:\Users\JTEC\Desktop\python projects\hire.py (3.10.4)
File Edit Format Run Options Window Help

```
name_lab = tk.Label(  
    detail_frame,  
    text="Full name:",  
    font=("Arial", 8),  
    bg="lightgray",  
    foreground="black"  
)  
name_lab.place(x=20, y=65)  
  
#entry  
name_ent = tk.Entry(  
    detail_frame,  
    bd=1,  
    font=("arial", 10),  
    bg="white",  
    foreground="black",  
)  
name_ent.place(x=110, y=65, width=250, height=30)  
  
#3  
state_lab = tk.Label(  
    detail_frame,
```

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Ln: 8 Col: 0

hire.py - C:\Users\JTEC\Desktop\python projects\hire.py (3.10.4)
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```
    detail_frame,  
    text="City:",  
    font=("Arial", 8),  
    bg="lightgray",  
    foreground="black"  
)  
city_lab.place(x=20, y=209)  
  
#entry  
city_ent = tk.Entry(  
    detail_frame,  
    bd=1,  
    font=("arial", 16),  
    bg="white",  
    foreground="black",  
)  
city_ent.place(x=110, y=209, width=250, height=30)  
  
#6  
len_lab = tk.Label(  
    detail_frame,  
    text="telephone number",  
    font=("Arial", 8),
```

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Ln: 8 Col: 0

```
hire.py - C:\Users\ITEC\Desktop\python projects\hire.py (3.10.4)
File Edit Format Run Options Window Help

# Database frame
main_frame = tk.Frame(
    data_frame,
    bg="teal",
    bd=2,
    relief=tk.GROOVE
)
main_frame.pack(fill=tk.BOTH, expand=True)

y_scroll = tk.Scrollbar(main_frame, orient=tk.VERTICAL)
x_scroll = tk.Scrollbar(main_frame, orient=tk.HORIZONTAL)

hire_table = ttk.Treeview(main_frame, columns=(
    "vehical number", "Full name", "Type of vehical", "Time", "City", "telephone number"
), yscrollcommand=y_scroll.set, xscrollcommand=x_scroll.set)

y_scroll.config(command=hire_table.yview)
x_scroll.config(command=hire_table.xview)

y_scroll.pack(side=tk.RIGHT, fill=tk.Y)
x_scroll.pack(side=tk.BOTTOM, fill=tk.X)
```

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```
hire.py - C:\Users\ITEC\Desktop\python projects\hire.py (3.10.4)
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hire_table.heading("vehical number", text="vehical number")
hire_table.heading("Full name", text="Full name")
hire_table.heading("Type of vehical", text="Type of vehical")
hire_table.heading("Time", text="Time")
hire_table.heading("City", text="City")
hire_table.heading("telephone number", text="telephone number")

hire_table["show"] = "headings"

hire_table.column("vehical number", width=100)
hire_table.column("Full name", width=100)
hire_table.column("Type of vehical", width=100)
hire_table.column("Time", width=100)
hire_table.column("City", width=100)
hire_table.column("telephone number", width=100)

hire_table.pack(fill=tk.BOTH, expand=True)
```

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```
hire.py - C:\Users\ITEC\Desktop\python projects\hire.py (3.10.4)
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data=[
    ["12180247", "Kamal", "Car 1", "3.00", "Kaluthara", "01267894"],
    ["12180234", "Nimal", "Car 2", "7.00", "Panadura", "07768954"],
]

#Create stripped row tags
hire_table.tag_configure("oddrow", background="white")
hire_table.tag_configure("evenrow", background="#00AEAE")

global count
count=0
for record in data:
    if count % 2 == 0:
        hire_table.insert(parent="", index="end", iid=count, text="", values=(record[0],
    else:
        hire_table.insert(parent="", index="end", iid=count, text="", values=(record[0],

    count += 1

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```

```
hire.py - C:\Users\ITEC\Desktop\python projects\hire.py (3.10.4)
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btn_frame = tk.Frame(
    detail_frame,
    bg="lightgray",
    bd=0,
    relief=tk.GROOVE
)
btn_frame.place(x=40, y=400, width=310, height=130)

#Add Button
add_btn = tk.Button(
    btn_frame,
    bg="teal",
    foreground="white",
    text="Book",
    bd=2,
    font=("Arial", 13), width=15,
)
add_btn.grid(row=0, column=0, padx=2, pady=2)
win.mainloop()

Activate Windows
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```

Conclusion

- Learn how to create GUI using python
- Learn about python functionalities
- Learn about system requirements
- Learn more about python syntax