



پوهنتون کاردان
KARDAN UNIVERSITY

MODERN PROGRAMMING LANGUAGE
(Python)

GUI programming with Tkinter





Learning Outcome

- Know about Basics of GUI
- What is Tkinter package
- Should be able to Create windows
- Add Labels
- Add Buttons
- Creating Message boxes
- Providing actions to the buttons





- Software applications are developed in three repeating phases:
 - Understanding a problem,
 - Designing a solution,
 - Implementing the solution.
-
- Craft an flight reservation page on your notebooks





Tkinter introduction

- **Tkinter** is a Python interface to the Tk GUI library
- Making it the de facto GUI library for Python.
- The Tk widget library originates from the **Tool Command Language (Tcl)** programming language.
- Tcl and Tk were created in the late 1980s as an easier way to program engineering tools being used at the university.
- Tkinter is standard library for GUI applications



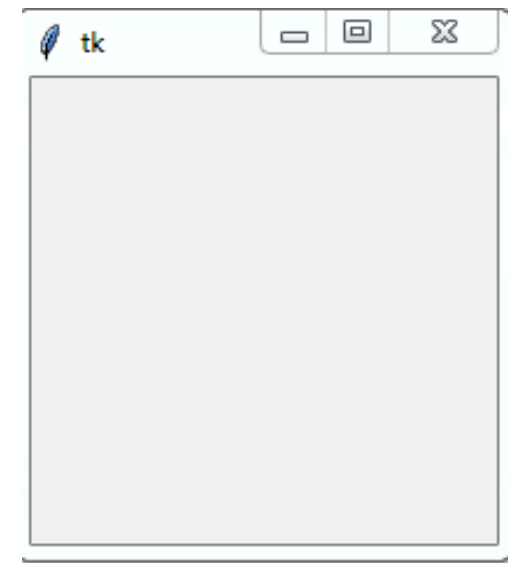


How to use Tkinter

- Tkinter is included in python library
- It just needs to be imported

```
from tkinter import *  
from tkinter.ttk import *
```

```
root = Tk()  
root.mainloop()
```



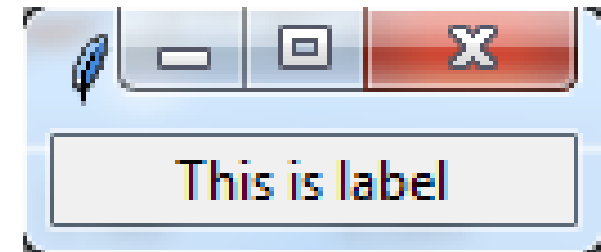


Adding labels to the frame

- To add labels to the frame, we need to create object of Label.

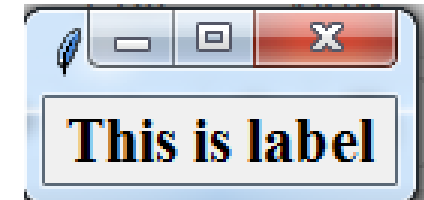
- Ex.

```
label1=Label(root, text='This is label')  
label1.pack()
```



- Setting size for the text:

```
label1=Label(root, text='This is label', font=("Times", 16, 'bold'))  
label1.pack()
```

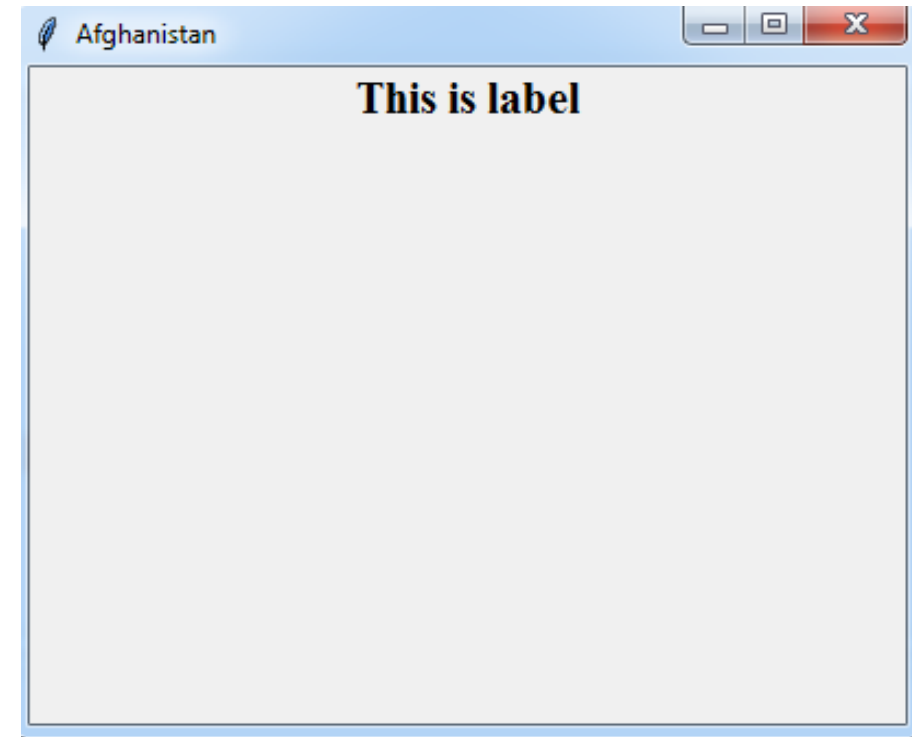




Setting sizes of windows

- We use geometry() function to provide size of frame

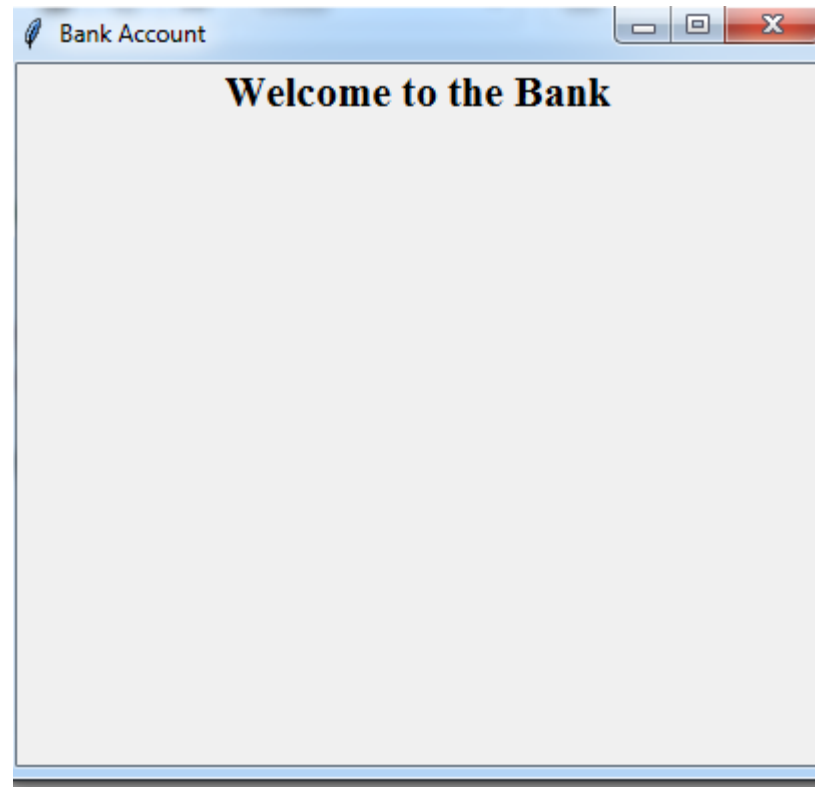
```
from tkinter import *  
from tkinter.ttk import *  
  
root = Tk()  
|  
root.geometry("400x300")  
root.title("Afghanistan")  
  
label1=Label(root, text='This is label', font=("Times", 16,'bold'))  
label1.pack()  
  
root.mainloop()
```





Practice 1

- Create a window using Tkinter with the following specifications:
- The size : 400 x 350
- Title: Bank Account
- Add the label as follows:





Setting locations for each component

- To set the exact location for each component we use the function called :place()
- This function takes the x and y coordinates of the windows.
- Example:
- To set locations for each label we can do as follows:

```
from tkinter.ttk import *  
  
root = Tk()  
root.geometry("300x300")  
root.title("Afghanistan")  
  
lab1=Label(root, text='Label Location', font=("Times", 16, 'bold'))  
lab1.place(x=100, y=120)  
  
root.mainloop()
```

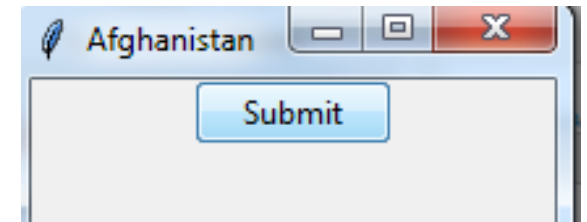




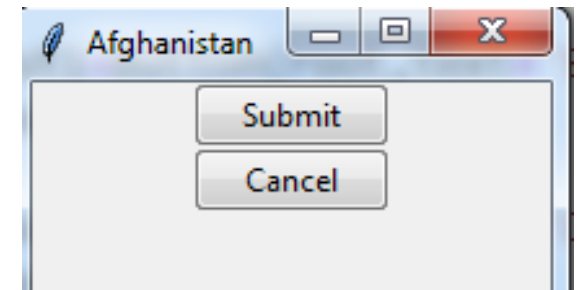
Adding Buttons

- To add a button to the frame, we have to write the following code:

```
but1=Button(root,text='Submit')  
but1.pack()
```



```
root = Tk()  
root.geometry("200x200")  
root.title("Afghanistan")  
  
but1=Button(root,text='Submit')  
but1.pack()  
but2=Button(root,text='Cancel')  
but2.pack()  
  
root.mainloop()  
|
```

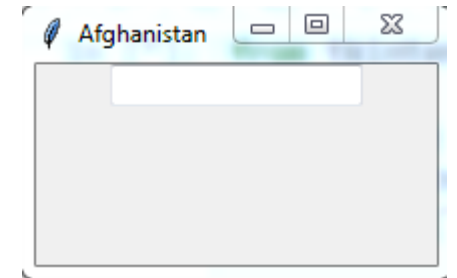




Adding Entry field

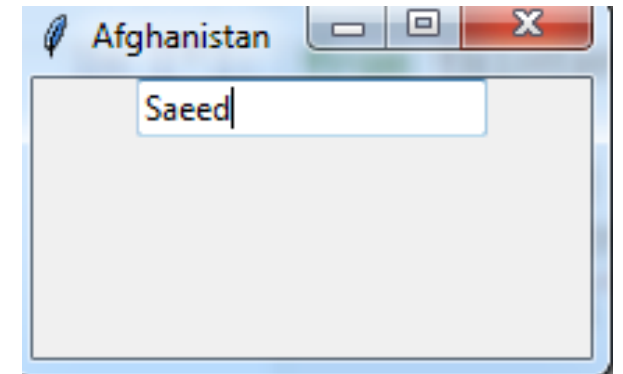
- Entry field is used to get the data from the field that appears.

```
name=Entry(root)  
name.pack()
```



- To store the value of the entry field, we need to declare a variable.

```
name=StringVar()  
  
name_f=Entry(root,textvar=name)  
name_f.pack()  
  
root.mainloop()  
  
print("The name is: ",name.get())
```





Practice 2

- Create the following window:

Bank Account

Welcome to the Bank

Name

Father Name

ID

Phone

Cancel Register