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# Thư viện lập trình Tkinter Phần 2

Khoá học: Python căn bản

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# Kiểm tra bài trước

Hỏi và trao đổi về các khó khăn gặp phải trong bài "Tkinter phần 1"

Tóm tắt lại các phần đã học từ bài "Tkinter phần 1"

# Mục tiêu

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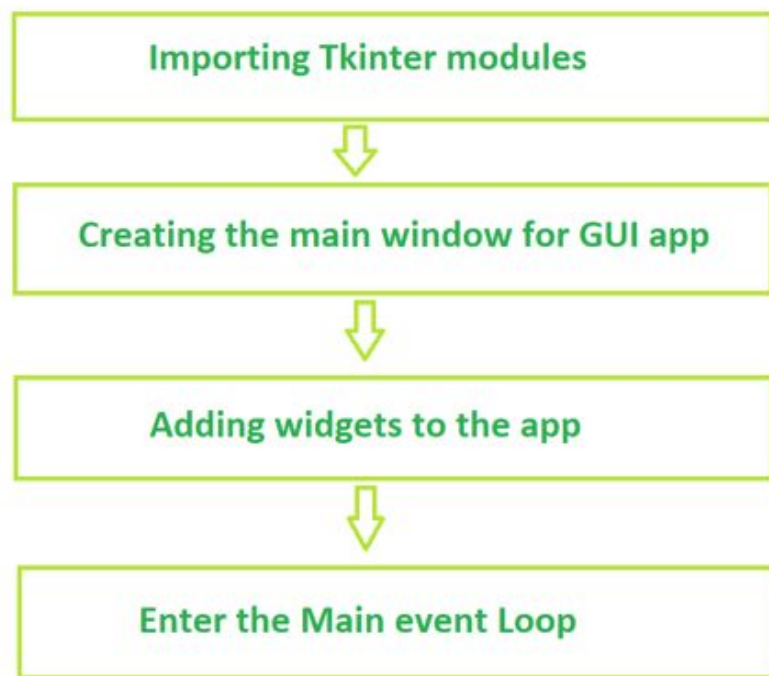
- Sử dụng được Button
- Sử dụng được Label
- Sử dụng được RadioButton
- Sử dụng được CheckButton
- Sử dụng được ComboBox
- Sử dụng được Text
- Sử dụng được Message

# Widget

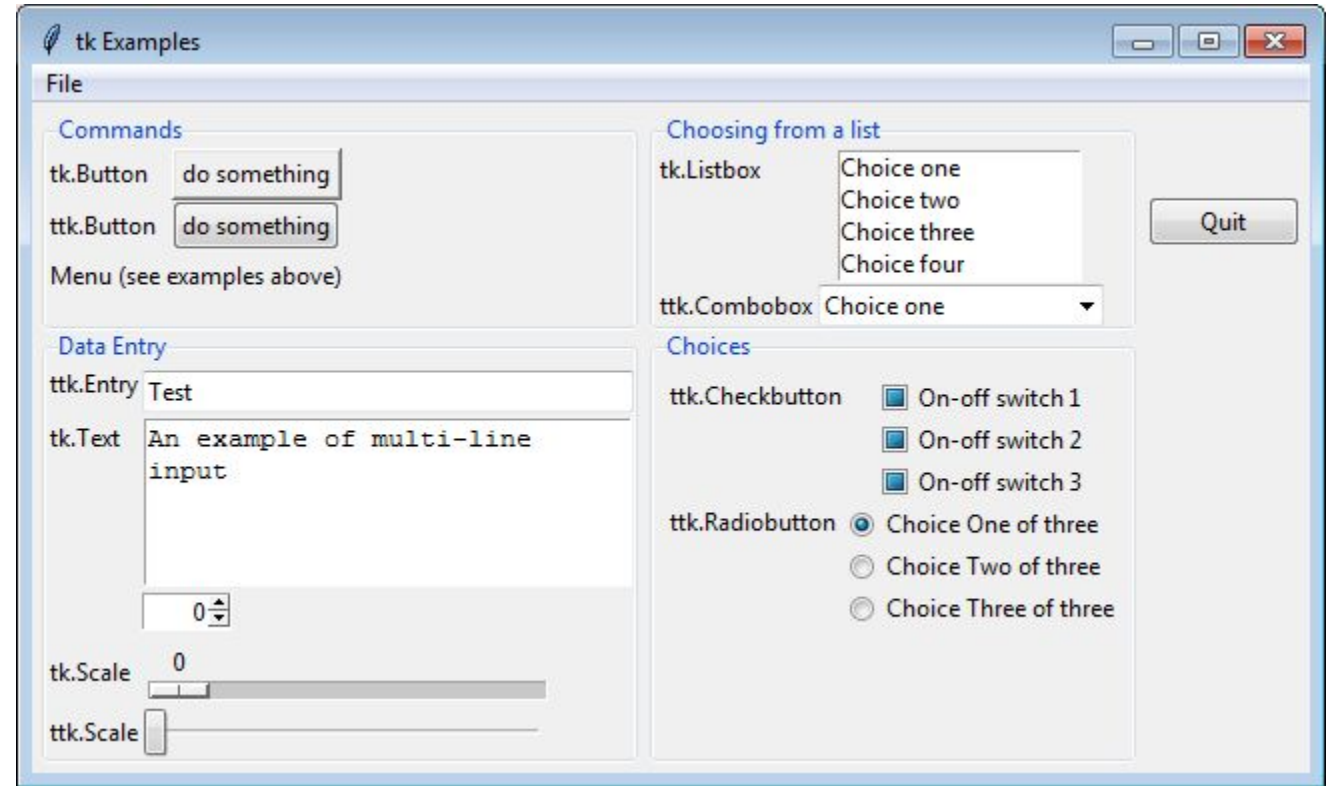
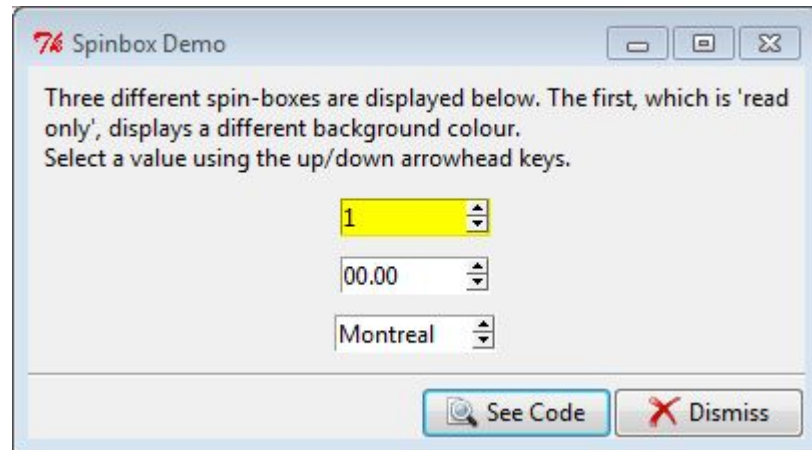
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- Widget là các thành phần cấu tạo nên một ứng dụng giao diện đồ họa
- Trong cấu trúc chương trình với Tkinter thì Widget được thêm vào sau khi tạo cửa sổ giao diện chính



# Một số Widget cơ bản - 1



# Một số Widget cơ bản - 2



Widgets	Description
Label	It is used to display text or image on the screen
Button	It is used to add buttons to your application
Canvas	It is used to draw pictures and others layouts like texts, graphics etc.
ComboBox	It contains a down arrow to select from list of available options
CheckBox	It displays a number of options to the user as toggle buttons from which user can select any number of options.
RadioButton	It is used to implement one-of-many selection as it allows only one option to be selected
Entry	It is used to input single line text entry from user

# Một số Widget cơ bản - 3



Widgets	Description
Frame	It is used as container to hold and organize the widgets
Message	It works same as that of label and refers to multi-line and non-editable text
Scale	It is used to provide a graphical slider which allows to select any value from that scale
Scrollbar	It is used to scroll down the contents. It provides a slide controller.
SpinBox	It is allows user to select from given set of values
Text	It allows user to edit multiline text and format the way it has to be displayed
Menu	It is used to create all kinds of menu used by an application

# Label

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- Tkinter Label is a widget that is used to implement display boxes where you can place text or images.
- The text displayed by this widget can be changed by the developer at any time you want. It is also used to perform tasks such as to underline the part of the text and span the text across multiple lines.
- It is important to note that a label can use only one font at a time to display text.
- To use a label, you just have to specify what to display in it (this can be text, a bitmap, or an image)



# Label: Syntax

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## Syntax:

*w = Label ( master, option, ... )*

## Parameters:

- **master:** This represents the parent window
- **options:** Below is the list of most commonly used options for this widget. These options can be used as key-value pairs separated by commas:
  - **anchor:** This options is used to control the positioning of the text if the widget has more space than required for the text. The default is anchor=CENTER, which centers the text in the available space.
  - **height:** This option is used to set the vertical dimension of the new frame.
  - **width:** Width of the label in characters (not pixels!). If this option is not set, the label will be sized to fit its contents.

# Label: Example

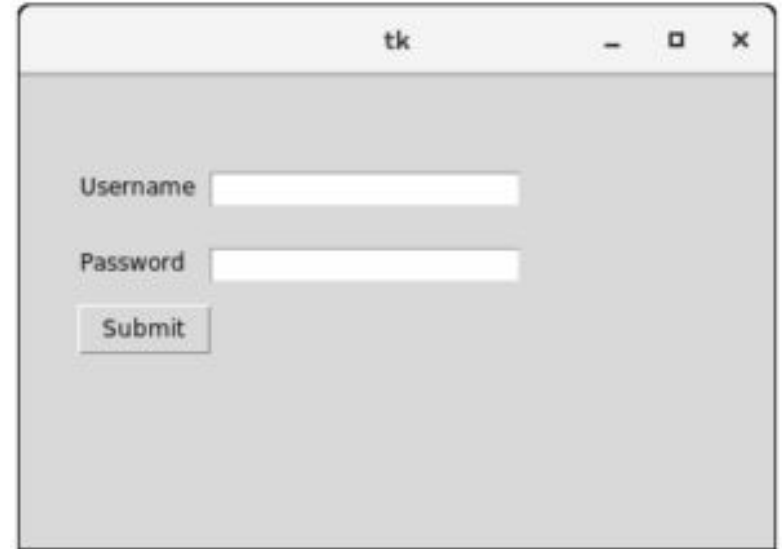


```
from tkinter import *

top = Tk()
top.geometry("450x300")

# the label for user_name
user_name = Label(top,
text = "Username").place(x = 40, y = 60)

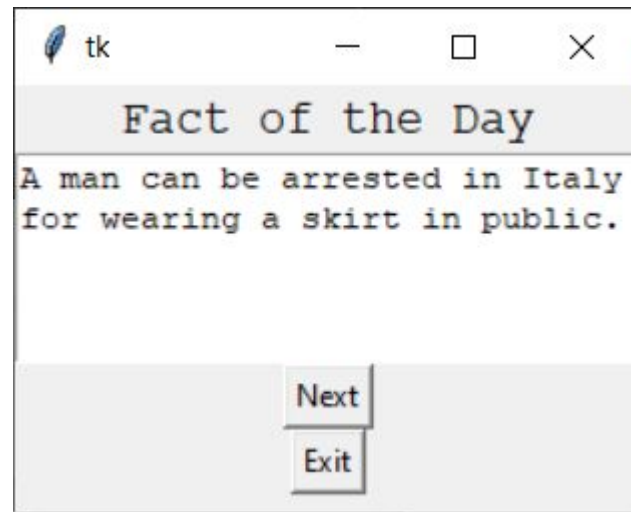
# the label for user_password
user_password = Label(top, text = "Password").place(x = 40, y = 100)
submit_button = Button(top, text = "Submit").place(x = 40, y = 130)
user_name_input_area = Entry(top, width = 30).place(x = 110, y = 60)
user_password_entry_area = Entry(top, width = 30).place(x = 110, y = 100)
top.mainloop()
```



# Text

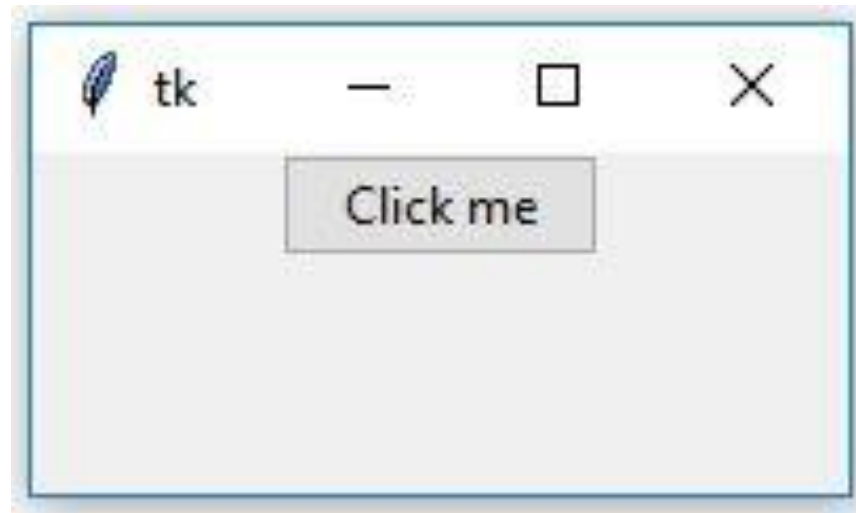


- Text Widget is used where a user wants to insert multiline text fields.
- This widget can be used for a variety of applications where the multiline text is required such as messaging, sending information or displaying information and many other tasks.
- We can insert media files such as images and links also in the Text widget.



# Button

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# RadioButton

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- The Radiobutton is a standard Tkinter widget used to implement one-of-many selections.
- RadioButton can contain text or images, and you can associate a Python function or method with each button. When the button is pressed, Tkinter automatically calls that function or method.
- Syntax:

*button = Radiobutton(master, text="Name on Button", variable = "shared variable", value = "values of each button", options = values, ...)*

**shared variable** = A Tkinter variable shared among all Radio buttons

**value** = each radiobutton should have different value otherwise more than 1 radiobutton will get selected.

# RadioButton: Example



```
# Importing Tkinter module
from tkinter import *
# from tkinter.ttk import *

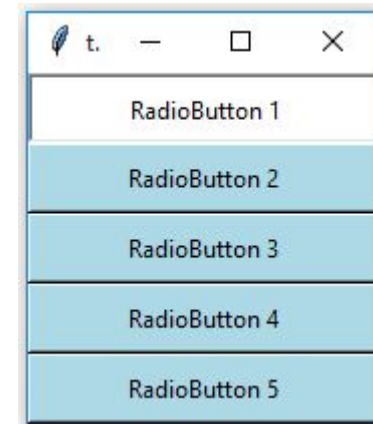
# Creating master Tkinter window
master = Tk()
master.geometry("175x175")

# Tkinter string variable
# able to store any string value
v = StringVar(master, "1")

# Dictionary to create multiple buttons
values = {"RadioButton 1" : "1",
         "RadioButton 2" : "2",
         "RadioButton 3" : "3",
         "RadioButton 4" : "4",
         "RadioButton 5" : "5"}

# Loop is used to create multiple Radiobuttons
# rather than creating each button separately
for (text, value) in values.items():
    Radiobutton(master, text = text, variable = v,
                value = value, indicator = 0,
                background = "light blue").pack(fill = X, ipady = 5)

# Infinite loop can be terminated by
# keyboard or mouse interrupt
# or by any predefined function (destroy())
mainloop()
```



# CheckBox

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- The Checkbutton widget is a standard Tkinter widget that is used to implement on/off selections.
- Checkbuttons can contain text or images. When the button is pressed, Tkinter calls that function or method.

## Syntax:

The syntax to use the checkbutton is given below.

## Parameters:

- **master:** This parameter is used to represents the parent window.
- **options:** There are many options which are available and they can be used as key-value pairs separated by commas.
  - **font:** This option used to represent the font used for the text.
  - **height:** This option used to represent the number of lines of text on the checkbutton and it's default value is 1.
  - **width:** This option used to represents the width of the checkbutton. and also represented in the number of characters that are represented in the form of texts

# CheckBox: Example



```
from tkinter import *

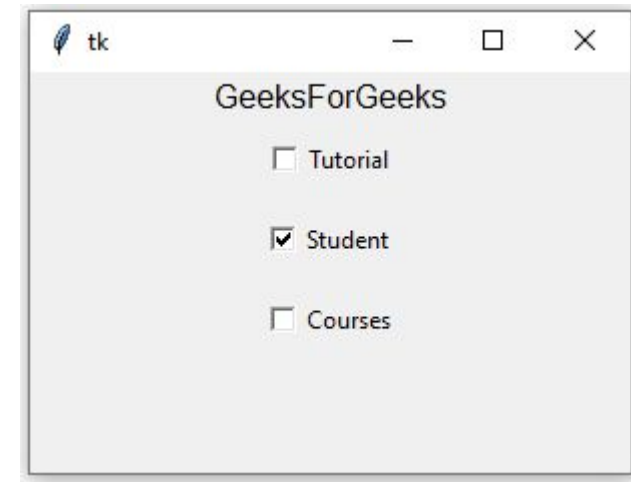
root = Tk()
root.geometry("300x200")
w = Label(root, text = 'GeeksForGeeks', font = "50")
w.pack()
Checkbutton1 = IntVar()
Checkbutton2 = IntVar()
Checkbutton3 = IntVar()
Button1 = Checkbutton(root, text = "Tutorial",
                      variable = Checkbutton1,
                      onvalue = 1,
                      offvalue = 0,
                      height = 2,
                      width = 10)

Button2 = Checkbutton(root, text = "Student",
                      variable = Checkbutton2,
                      onvalue = 1,
                      offvalue = 0,
                      height = 2,
                      width = 10)

Button3 = Checkbutton(root, text = "Courses",
                      variable = Checkbutton3,
                      onvalue = 1,
                      offvalue = 0,
                      height = 2,
                      width = 10)

Button1.pack()
Button2.pack()
Button3.pack()

mainloop()
```





# ComboBox

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- Combobox is a combination of Listbox and an entry field.
- It is one of the Tkinter widgets where it contains a down arrow to select from a list of options.
- It helps the users to select according to the list of options displayed.

# ComboBox: Example

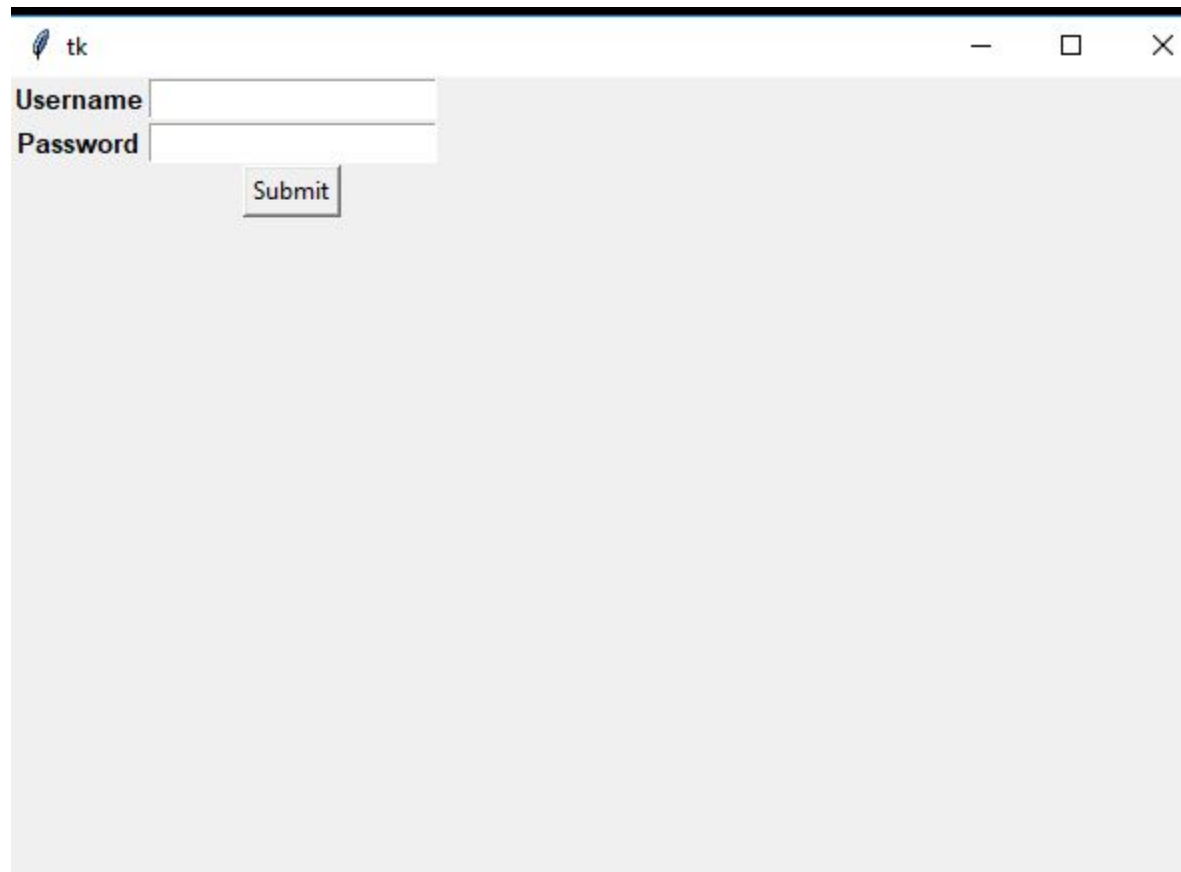


# Entry

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- The Entry Widget is a Tkinter Widget used to Enter or display a single line of text.

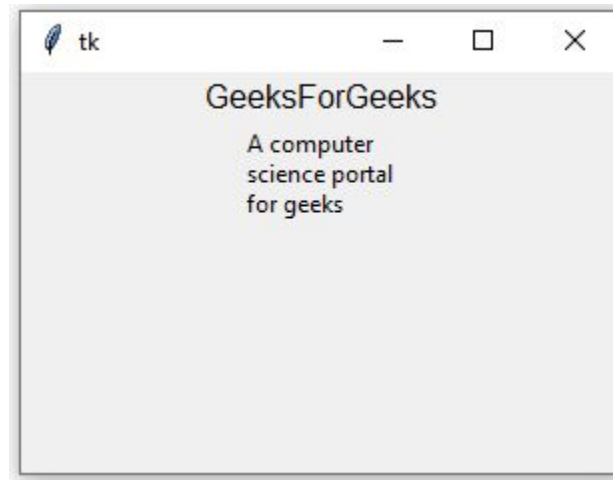


# Message

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- The Message widget is used to show the message to the user regarding the behavior of the python application.
- The message text contains more than one line.





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# Demo

Ứng dụng calculator

# Tóm tắt bài học

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- Label
- Button
- Text
- RadioButton
- CheckButton
- ComboBox
- Entry
- Message

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# Hướng dẫn

Hướng dẫn làm bài thực hành và bài tập

Chuẩn bị bài tiếp theo