

# Tkinter

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- ⇒ Tkinter is a Python standard GUI Library.
- ⇒ When Python is used in conjunction with Tkinter, creating graphical user interface is quick and simple.
- ⇒ It gives TK GUI toolkit a sophisticated object-oriented interface.

## Tkinter Programming ⇒

It's simple to make a GUI application with Tkinter.  
Steps that have to be followed are ⇒

- ① Importing the ~~tkinter~~ Tkinter module.
  - ② Creating a main window.
  - ③ Adding multiple widgets in a main window.
  - ④ Entering into main event loop to perform action.
- ⑤ When establishing a Python application with GUI, there are two primary approaches.
- A) `TK()` — it is used to make a main window
- `mainloop()` — It is an infinite loop that runs the application, waits for an event and processes it as soon as the window is open.

Ex 1

```
from tkinter import *  
main_window = TK()  
main_window.mainloop()
```



## ② Widgets ⇒

- ① Tkinter offers many Controls in a GUI application, Such as buttons, labels and text boxes.
- ② widgets are the general name for these controls.

There are some widgets ⇒

- |               |           |
|---------------|-----------|
| ① Label .     | ⑤ Canvas  |
| ② Button      | ⑥ Frame . |
| ③ Entry       |           |
| ④ Checkbutton |           |

## ③ Geometry Configuration of widgets

There are Primarily three types of geometry manager classes -

- ① Pack () - It is used to ~~organize~~ place a widget on top.
- ② grid () - It is used to organise the widget in table like structure.
- ③ Place () - It is used to organise the widget at specific position.

Let's Learn all the widgets in some detail -

- ① Label - display box in which image or text is added.

Syntax     L1 = Label(master, opt=val)



Options that can be passed as arguments-

- |           |          |
|-----------|----------|
| ① bg      | ④ image  |
| ② Command | ⑤ width  |
| ③ Font    | ⑥ height |

③

② Button - It is used to show button in application.

Syntax-

$bl = \text{Button}(\text{master}, \text{opt} = \text{val})$

Options that can be passed on  $\text{opt} = \text{" "}$

- |           |          |
|-----------|----------|
| ① bg      | ④ image  |
| ② Command | ⑤ width  |
| ③ font    | ⑥ height |

③ CheckButton - It is used to show a selection of choices as checkboxes.

Syntax  $\Rightarrow$

$val = \text{Checkbutton}(\text{master}, \text{opt} = \text{val})$

Options we can pass as argument  $\text{opt} = \text{" "}$

- ① Title
- ② bg
- ③ activebackground.

④ Frame  $\Rightarrow$  It serves as a container and used to organise the widgets.

Syntax  $\Rightarrow$

$val = \text{Frame}(\text{master}, \text{opt} = \text{val})$



option we can use opt = " \_ "

- ① bg
- ② bd
- ③ Cursor
- ④ width
- ⑤ height

④

⑤ Listbox - It is used to give a user with a list of options.

Syntax →

bl = Listbox (master, opt = lev)

we can use at opt = " \_ "

- ① bg
- ② bd
- ③ Font
- ④ image
- ⑤ width
- ⑥ height

⑥ Other types of widget →

- ① MenuButton
- ② Menu
- ③ Message
- ④ RadioButton
- ⑤ Scale
- ⑥ Scrollbar
- ⑦ Text
- ⑧ TopLevel
- ⑨ SpinBox
- ⑩ PanedWindow