



School of Computer Engineering and Technology (Cybersecurity and Forensics)

Python Programming Lab Assignment No:11

Problem Statement:

Create a program to take input of your date of output your birth and age.

Aim:

Write a Python GUI program to import Tkinter package and create a program to take input of your date of output your birth and age.

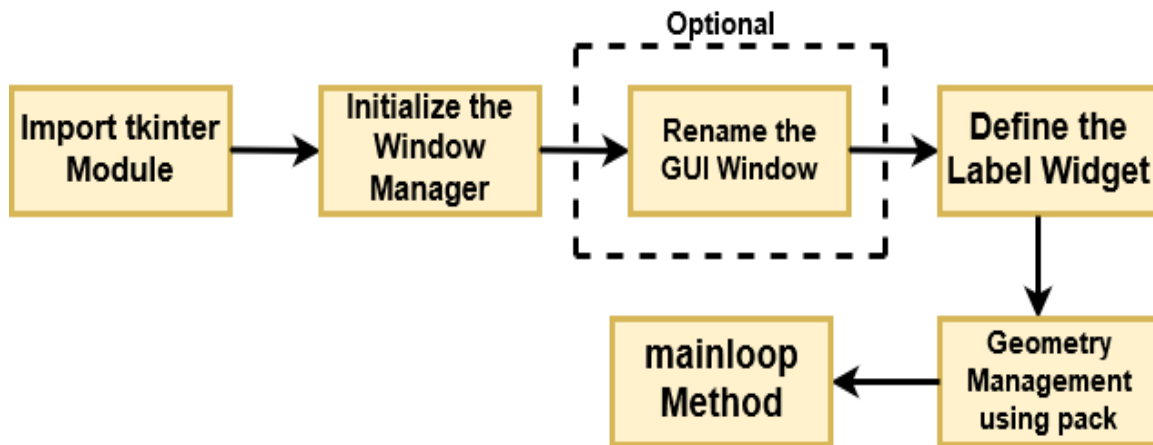
Objectives:

To learn and implement Python GUI using Tkinter.

Theory:

Tkinter commonly comes bundled with Python, using Tk and is Python's standard GUI framework. It is famous for its simplicity and graphical user interface. It is open-source and available under the Python License.

Note: Tkinter comes pre-installed with Python3, and you need not bother about installing it. Now, let's build a very simple GUI with the help of Tkinter and understand it with the help of a flow diagram.



Steps:

- First, you import the key component, i.e., the Tkinter module.
- As a next step, you initialize the window manager with the `tkinter.Tk()` method and assign it to a variable. This method creates a blank window with close, maximize, and minimize buttons on the top as a usual GUI should have.
- Then as an optional step, you will Rename the title of the window as you like with `window.title(title_of_the_window)`.
- Next, you make use of a widget called Label, which is used to insert some text into the window.
- Then, you make use of Tkinter's geometry management attribute called `pack()` to display the widget in size it requires.
- Finally, as the last step, you use the `mainloop()` method to display the window until you manually close it. It runs an infinite loop in the backend.

Widgets

- **Button:** Button widget has a property for switching on/off. When a user clicks the button, an event is triggered in the Tkinter.

Syntax: `button_widget = tk.Button(widget, option=placeholder)`

where widget is the argument for the parent window/frame while option is a placeholder that can have various values like foreground & background color, font, command (for function call), image, height, and width of button.

- **Canvas:** Canvas is used to draw shapes in your GUI and supports various drawing methods.

Syntax: `canvas_widget = tk.Canvas(widget, option=placeholder)`

where widget is the parameter for the parent window/frame while option is a placeholder that can have various values like border-width, background color, height and width of widget.

- **Checkbutton:** Checkbutton records on-off or true-false state. It lets you can select more than one option at a time and even leave it unchecked.

Syntax: `checkbutton_widget = tk.CheckButton(widget, option=placeholder)`

where widget is the parameter for the parent window/frame while option is a placeholder that can have various values like title, text, background & foreground color while widget is under the cursor, font, image, etc.

- **Entry:** Entry widget is used to create input fields or to get input text from the user within the GUI.

Syntax: `entry_widget = tk.Entry(widget, option=placeholder)`

where widget is the parameter for the parent window/frame while option is a placeholder that can have various values like border-width, background color, width & height of button etc.

- **Frame:** Frame is used as containers in the Tkinter for grouping and adequately organizing the widgets.

Syntax: `frame_widget = tk.Frame(widget, option=placeholder)`

where widget is the parameter for the parent window/frame while option is a placeholder that can have various values like border-width, height & width of widget, highlightcolor (color when widget has to be focused).

- **Label:** Label is used to create a single line widgets like text, images, etc.

Syntax: `label_widget = tk.Label(widget, option=placeholder)`

where widget is the parameter for the parent window/frame while option is a placeholder that can have various values like the font of a button, background color, image, width, and height of button.

Platform: Windows/Ubuntu-Python Editor(jupyter notebook)

Input: Tkinter GUI with input as date of birth of a student in date format.

Output: Tkinter GUI with input as date of birth of a student and output shows age.

Conclusion:

Studied Python GUI using Tkinter with various widgets.

FAQs:

1. What is python Tkinter?
2. What is Python Tkinter pack() and mainloop() method?