Pandemic Analytics

2.2

Creating GUI using Tkinter

Day: **2**
Session: **2**
ETD: **20 min**

Recap

Functions to calculate

- **IFR**
- **CMR**

PyGUI

- **WYSWYG-GUI is a desktop app that provides you with an interface that helps you to interact with the computers and enriches your experience of giving a command (command-line input) to your code.**

- **They are used to perform different tasks in desktops, laptops, and other electronic devices, etc.**

Continue..

Some of the applications where the power of GUI is utilized are

- **Creating a Calculator which would have a user-interface and functionalities that persists in a calculator.**
- **Text-Editors, IDE's for coding are on a GUI app.**

Overview of Tkinter

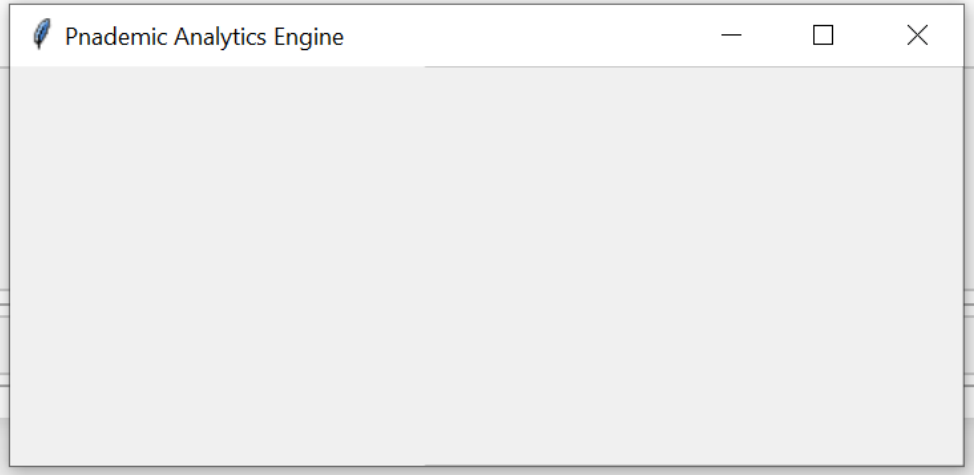
- Tkinter commonly comes bundled with Python, using Tk and is Python's standard GUI framework.
- It is famous for its simplicity and graphical user interface.
- It is open-source and available under the Python License

Tkinter - GUI

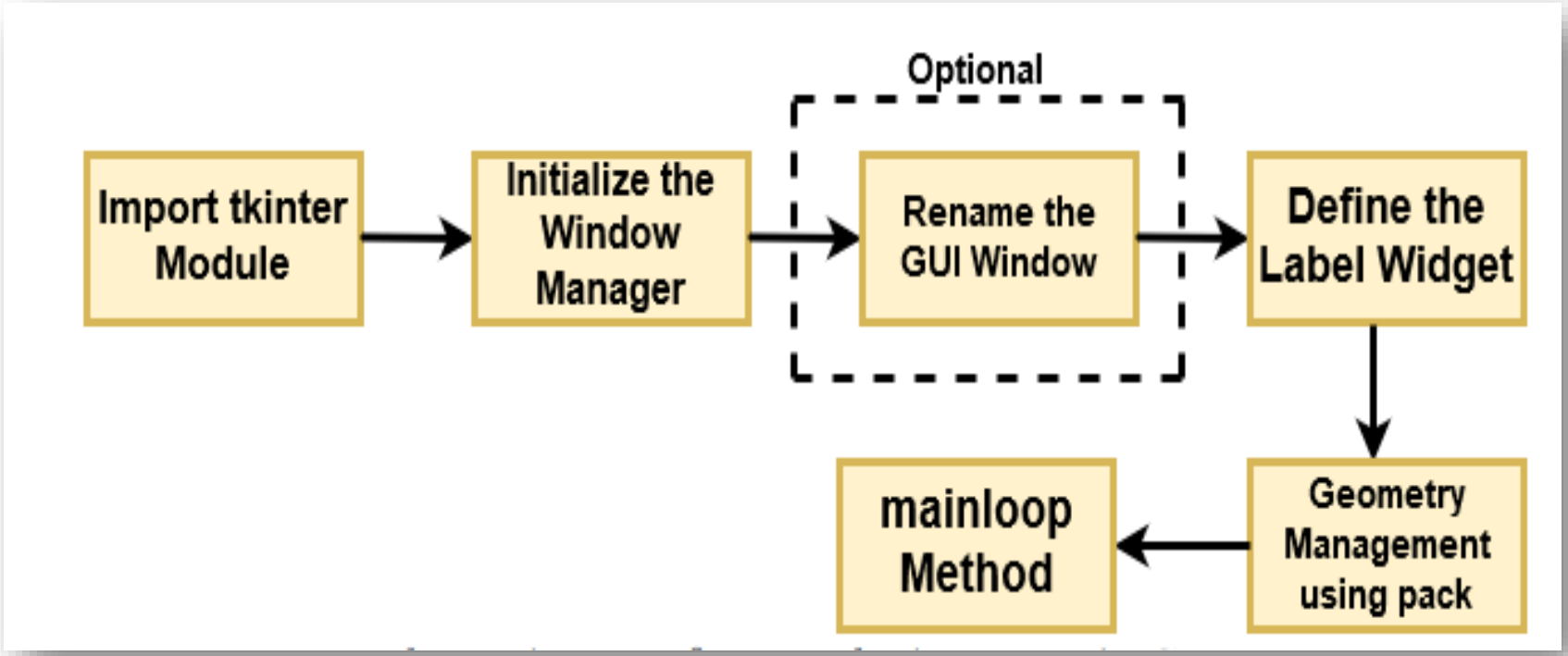
```
In [*]: import tkinter as tk
        window = tk.Tk()
        window.title("Pnademic Analytics Engine")


        window.mainloop()

In [ ]:
```



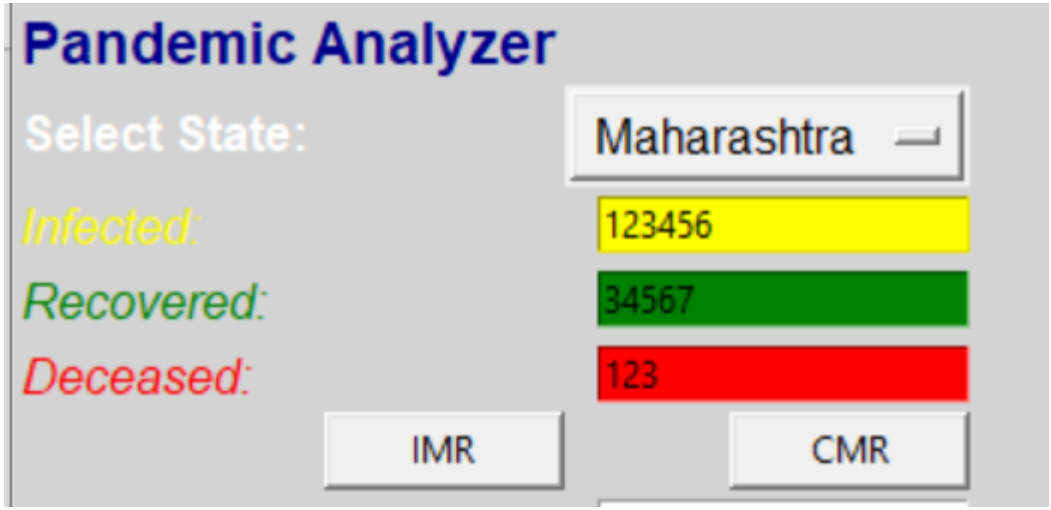
Flow diagram of tkinter




DEMO

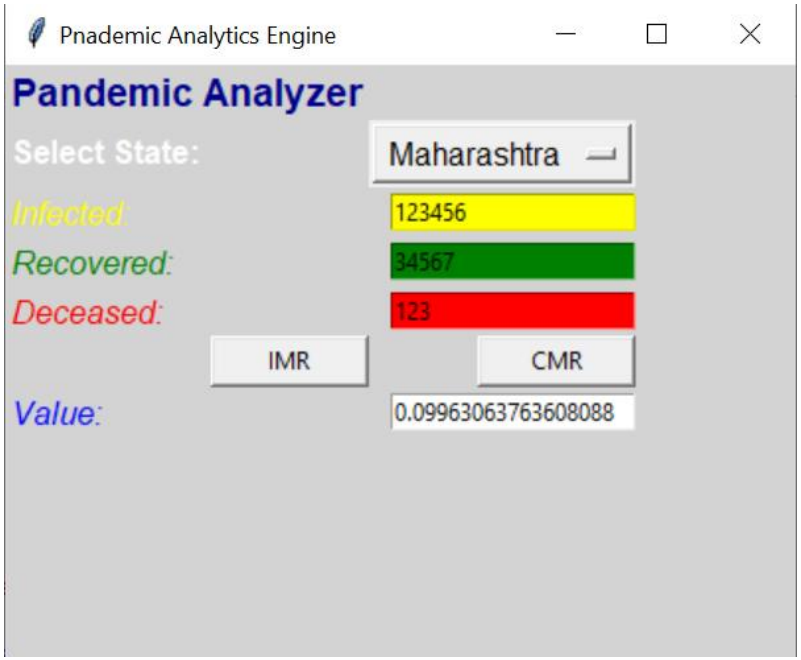
Widgets

- Widgets are similar in spirit to elements in HTML
- There is different types of widgets for different types of elements in the Tkinter.
- They are standard GUI elements and provide the user with controls like buttons, text, menus, and text boxes



Geometry Management

- All widgets in Tkinter have some geometry measurements.
- These geometry measurements allow you to organize the widgets and throughout the parent frames or parent widget area.
- Tkinter provides three main geometry manager classes:



Continue..

- **pack()**: It organizes the widgets in a block manner, and the complete available width is occupied by it. It's a conventional method to show the widgets in the window.
- **grid():** It organizes the widgets in a table-like structure. You will learn about it in detail later in this tutorial.

- **place()**: Its purpose is to place the widgets at a specific position as instructed by the user in the parent widget.

Create your own Pandemic Analyzer

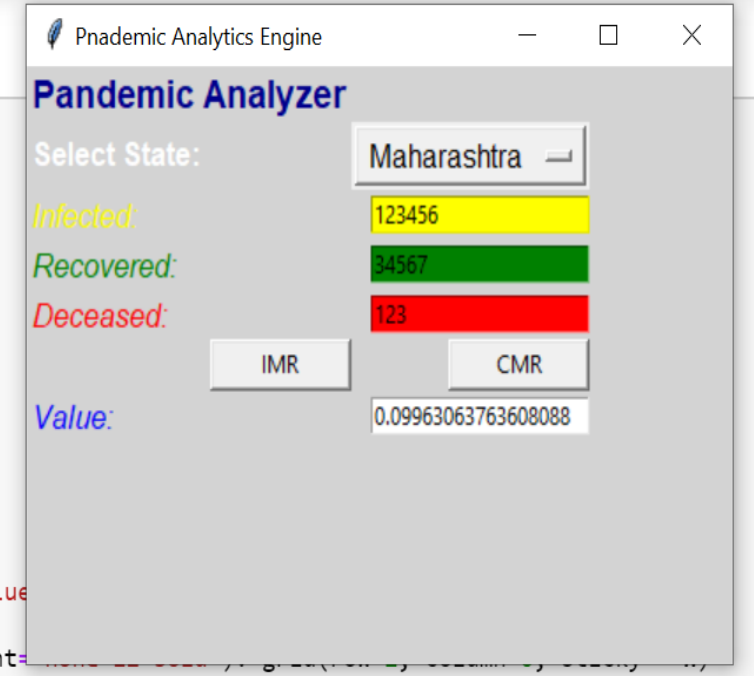
LOVELY PROFESSIONAL UNIVERSITY

Tkinter - GUI

In [*]:

```
import tkinter as tk
StateList = ["Maharashtra","Tamilnadu","Delhi", "Rajasthan"]
inf=123456
reco=34567
dead=123
imr=0.09963063763608088
### MAIN LOOP
window = tk.Tk()
window.geometry('400x300')
window.title("Pnademic Analytics Engine")
# Window configuration
window.configure(background = 'light gray')

# Adding HEADING
Label(window, text = "Pandemic Analyzer", bg='light gray', fg='dark blue
# Adding State Selector uing OptionMenu widget
Label(window, text = "Select State:", bg='light gray', fg='white', font=
variable = tk.StringVar(window)
variable.set(StateList[0])
opt = tk.OptionMenu(window, variable, *StateList)
opt.config(width=10, font=('Helvetica', 12))
opt.grid(row=2, column=1, sticky = E)
# Adding DATA Entry
```




DEMO

Take away…

- PyGUI
- Overview of tkinter
- Creating GUI using tkinter

Day 2
Session 3

❑ Working with Data in Python