**Experiment 11**

**Aim** : To implement GUI Frame application using Tkinter.

**Theory:**

**Tkinter Programming**

Tkinter is the standard GUI library for Python. Python when combined with Tkinter provides a fast and easy way to create GUI applications. Tkinter provides a powerful object-oriented interface to the Tk GUI toolkit.

Creating a GUI application using Tkinter is an easy task. All you need to do is perform the following steps −

· Import the *Tkinter* module.

· Create the GUI application main window.

· Add one or more of the above-mentioned widgets to the GUI application.

· Enter the main event loop to take action against each event triggered by the user.

**Tkinter Widgets**

Tkinter provides various controls, such as buttons, labels and text boxes used in a GUI application. These controls are commonly called widgets.

Different types of widgets are as follows:

| **Sr.No.** | **Operator & Description** |
| --- | --- |
| 1 | [**Button**](https://www.tutorialspoint.com/python/tk_button.htm)  The Button widget is used to display buttons in your application. |
| 2 | [**Canvas**](https://www.tutorialspoint.com/python/tk_canvas.htm)  The Canvas widget is used to draw shapes, such as lines, ovals, polygons and rectangles, in your application. |
| 3 | [**Checkbutton**](https://www.tutorialspoint.com/python/tk_checkbutton.htm)  The Checkbutton widget is used to display a number of options as checkboxes. The user can select multiple options at a time. |
| 4 | [**Entry**](https://www.tutorialspoint.com/python/tk_entry.htm)  The Entry widget is used to display a single-line text field for accepting values from a user. |
| 5 | [**Frame**](https://www.tutorialspoint.com/python/tk_frame.htm)  The Frame widget is used as a container widget to organize other widgets. |
| 6 | [**Label**](https://www.tutorialspoint.com/python/tk_label.htm)  The Label widget is used to provide a single-line caption for other widgets. It can also contain images. |

Geometry Management

All Tkinter widgets have access to specific geometry management methods, which have the purpose of organizing widgets throughout the parent widget area. Tkinter exposes the following geometry manager classes: pack, grid, and place.

·  [The *pack()* Method](https://www.tutorialspoint.com/python/tk_pack.htm) − This geometry manager organizes widgets in blocks before placing them in the parent widget.

·  [The *grid()* Method](https://www.tutorialspoint.com/python/tk_grid.htm) − This geometry manager organizes widgets in a table-like structure in the parent widget.

·  [The *place()* Method](https://www.tutorialspoint.com/python/tk_place.htm) − This geometry manager organizes widgets by placing them in a specific position in the parent widget.

Conclusion : Thus studied Tkinter in python programming.