# PYTHON GUI:  Buttons

Computer Science Software Engineering

Learning Objectives
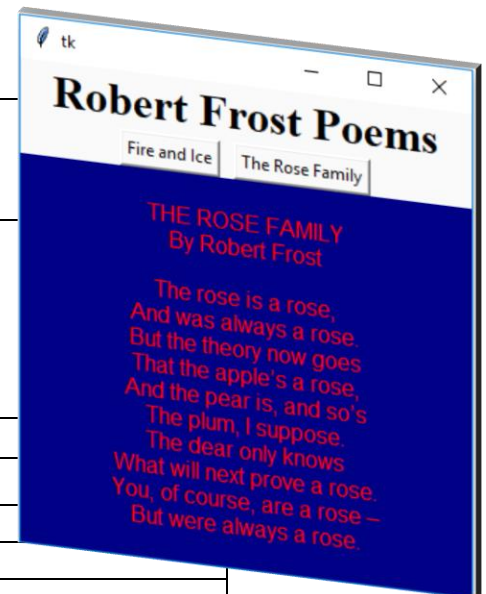
Students will be able to demonstrate mastery of …
1. Python GUI Interface Commands
2. Creating Labels with Custom Messages

Procedure
1. Review basic tkinter commands for use in your program.



| Basic Tkinter Commands | |
|---|---|
| Label(#text#) | creates a label |
| Message(#text#) | creates a message |
| Button(#text#) | creates a button |
| .grid(#parameters#) | configures layout management geometry |
| .config(#parameters#) | configures the widget |
| .mainloop() | loops the program in tkinter |
| bg= | sets the background of widget |
| font= | changes the font properties |
| fg= | sets the foreground of widget |
| padx= | provides horizontal space in widget |
| pady= | provides vertical space in widget |
| columnspan= | determines the number of columns for the widget |
| row= | determines vertical placement of widget |
| column= | determines horizontal placement of widget |
| text= | provides text within the widget |

2. You can now use this basic code to create a rudimentary message using Labels in a Python GUI.

```
1    import tkinter
2    #
3    def run1():
4        lbl1=tkinter.Label(text=msg1)
5        lbl1.config(bg="navyblue",font=(16),fg="red",width=35,height=15)
6        lbl1.grid(row=3,columnspan=2)
7    def run2():
8        lbl1=tkinter.Label(text=msg2)
9        lbl1.config(bg="navyblue",font=(16),fg="red",width=35,height=15)
10       lbl1.grid(row=3,columnspan=2)
11   #
12   msg1="""
13   FIRE AND ICE
14   By Robert Frost
15
16   Some say the world will end in fire,
17   Some say in ice.
18   From what I've tasted of desire
19   I hold with those who favor fire.
20   But if it had to perish twice,
```

| 21 | I think I know enough of hate |
| --- | --- |
| 22 | To say that for destruction ice |
| 23 | Is also great |
| 24 | And would suffice. |
| 25 | """ |
| 26 | # |
| 27 | msg2=""" |
| 28 | THE ROSE FAMILY |
| 29 | By Robert Frost |
| 30 | |
| 31 | The rose is a rose, |
| 32 | And was always a rose. |
| 33 | But the theory now goes |
| 34 | That the apple's a rose, |
| 35 | And the pear is, and so's |
| 36 | The plum, I suppose. |
| 37 | The dear only knows |
| 38 | What will next prove a rose. |
| 39 | You, of course, are a rose – |
| 40 | But were always a rose. |
| 41 | """ |
| 42 | # |
| 43 | title=tkinter.Label(text="Robert Frost Poems") |
| 44 | title.config(font=("times",24,"bold")) |
| 45 | title.grid(columnspan=2) |
| 46 | tkinter.Button(text="Fire and Ice",command=run1).grid(row=1,column=0,sticky="E",padx=5) |
| 47 | tkinter.Button(text="The Rose Family",command=run2).grid(row=1,column=1,sticky="W",padx=5) |
| 48 | lbl1=tkinter.Label() |
| 49 | lbl1.config(bg="navyblue",font=(16),fg="red",width=35,height=15) |
| 50 | lbl1.grid(row=3,columnspan=2) |
| 51 | tkinter.mainloop() |

Assignment

Modify the code to practice creating your own messages.  You must meet the following standards:
1. Creates custom buttons
2. Uses custom font type
3. Uses custom font size

To exceed the standard (add one or more of the following):
1. Display two windows with buttons on the screen simultaneously