

Chapter 11 Review Questions

1. A drop-down menu on a window can provide _____ operations.
2. The _____ method closes a window and ends the program.
3. An asterisk with an import statement is referred to as a _____.
4. The _____ method is used to center a window in the display area.
5. The _____ function can be used to prevent a window from being resized.
6. The _____ file format is used with the `iconbitmap()` method to change the window icon.
7. When a `StringVar` is assigned to a component, any change to the `StringVar` value immediately _____ the component.
8. When plotting on a canvas, the 0, 0 coordinates are located at the _____ of the canvas.
9. A _____ expression is an inline function with no name.

Chapter 11 Short Answer Exercises

1. What function is assigned to the "Exit" menu item in the following statement?

```
self.file_menu.add_command(label="Exit",  
                           command=self.main_win.destroy())
```

2. Where will the following statement place the window when it is created?

```
self.main_win.geometry('300x300+100+200')
```

3. What is the size of the window in the following statement?

```
self.main_win.geometry('300x300+100+200')
```

4. Where will the following statement place the window when it is created?

```
x_crd = int((self.main_win.winfo_screenwidth() - 300)/2)  
y_crd = int((self.main_win.winfo_screenheight() - 300)/2)  
self.main_win.geometry('%dx%d+%d+%d', %(300,300,x_crd,y_crd))
```

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5. What does the following statement accomplish?

```
self.main_win.resizable(False, False)
```

6. In the following expression, how much character space is allocated in the formatting?

```
value_string = '{:>10}'.format(value)
```

7. In the following expression, what is the effect of the greater than character?

```
value_string = '{:>10}'.format(value)
```

8. In the following expression, why is the word lambda included?

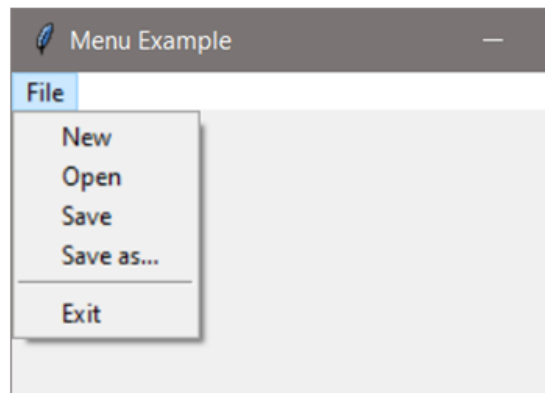
```
tk.Button(text='Click', command = lambda : print('Click'))
```

9. What window is the "owner" of the canvas in the following statement?

```
self.canvas = tkCanvas(self.plot_win, width=500, height=500)
```

Chapter 11 Programming Exercises

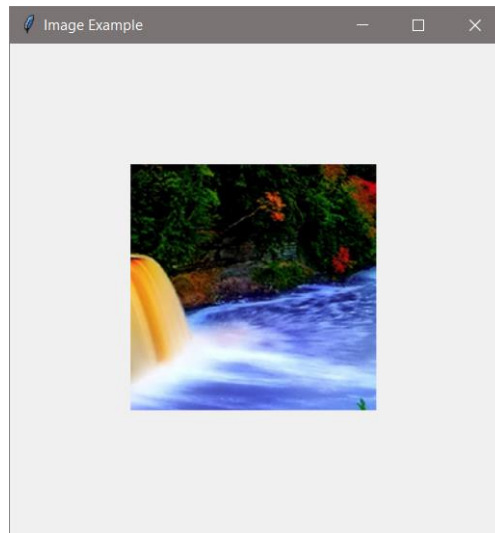
1. Implement a window with the title and menu shown below. When the menu items are clicked, print that an item was clicked.



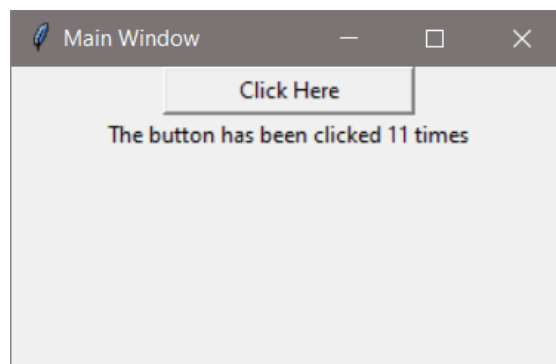
2. Implement a 400x400 non-resizable window that is centered in the display area when the program runs.

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3. Implement a window with an image. The window should be 410x410 and the image 200x200. Center the image in the window.



4. Implement a program with a window that has a button that updates a label that displays how many times the button was clicked. Use a StringVar in the solution.



5. Implement a window with a button that creates a second window when it is clicked.
6. Implement a two window program. The first window will have a button that updates a label on the second window and displays how many times the button was clicked. Use a StringVar in the solution. The second window should be a Toplevel window.

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7. Implement a window that is 300 x 300 with a canvas, and plot the text below at those coordinates. Make the font for the text Consolas, 12, and bold.

```
50, 50      250, 50      150,150
50, 250     250, 250
```

Chapter 11 Programming Challenges

#1 – Two-window Close Both

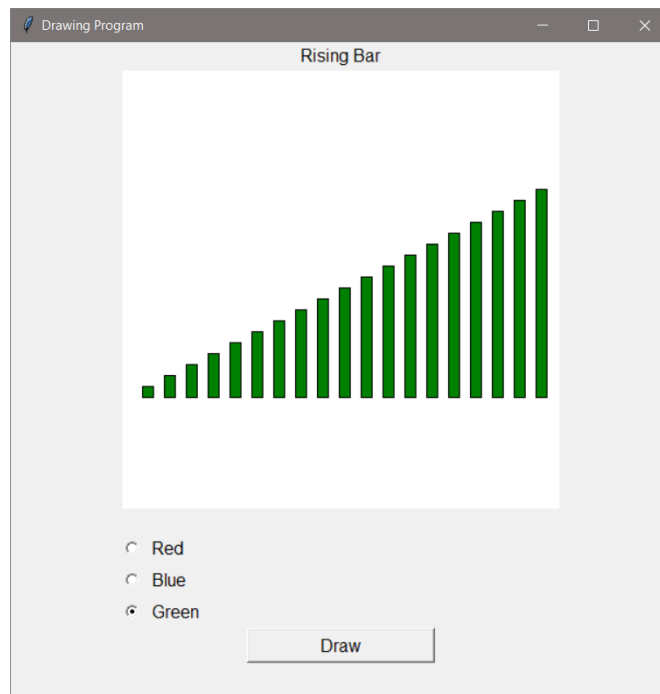
Design and implement a program with two windows. When either window is closed the other window should be destroyed and the program should end.

#2 – Display and Plot Values

Design and implement a GUI program that allows the user to input a radius and displays a circle with that radius on a canvas in a second window. The circle should be centered in the window.

#3 – Drawing on a Canvas

Implement a 600x600 window with a 400x400 canvas with a background, three (3) radio buttons that select a color, and a “Draw” button. When the button is clicked, draw a rising set of 19 bars in the color selected.



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