**Starting Out with Python 4e (Gaddis)**

**Chapter 13 GUI Programming**

**TRUE/FALSE**

1. Python does not have GUI programming features built into the language itself.

ANS: T

2. Programs that use **tkinter** do not always run reliably in IDLE.

ANS: T

3. A root widget's **destroy** method can be used as a callback function for a **Quit** button.

ANS: T

4. Radio buttons can be used to allow the user to make multiple selections at one time.

ANS: F

5. **Checkbutton** widgets are displayed in groups and used to make mutually exclusive selections.

ANS: F

6. In a GUI environment, no text input is possible.

ANS: F

7. The **pack** method determines where a widget should be positioned.

ANS: T

8. An info dialog box is a window that displays a message to the user and has an **OK** button which, when clicked, closes the dialog box.

ANS: T

9. To use an **Entry** widget to get data entered by a user, you must use the **Entry** widget's **set** method.

ANS: F

10. The **Entry** widget's **get** method retrieves either numeric or string data.

ANS: F

11. To use the **showinfo** function, the **tkinter.messagebox** module must be imported.

ANS: T

12. The point (0,0) represents the same place in a window with the **Canvas** widget as with turtle graphics.

ANS: F

**MULTIPLE CHOICE**

1. What are the items that appear on the graphical interface window called?

|  |  |
| --- | --- |
| a. | buttons |
| b. | icons |
| c. | widgets |
| d. | graphical elements |

ANS: C

2. A \_\_\_\_\_\_\_\_\_\_ program is an event-driven program.

|  |  |
| --- | --- |
| a. | GUI |
| b. | command line |
| c. | procedural |
| d. | modular |

ANS: A

3. Which widget allows the user to select a value by moving a slider along a track?

|  |  |
| --- | --- |
| a. | **Scrollbar** |
| b. | **Toplevel** |
| c. | **Scale** |
| d. | **Slider** |

ANS: C

4. Which widget will display multiple lines of text?

|  |  |
| --- | --- |
| a. | **Label** |
| b. | **Canvas** |
| c. | **Message** |
| d. | **Text** |

ANS: C

5. Which widget creates an area that displays one line of text or an image?

|  |  |
| --- | --- |
| a. | **Label** |
| b. | **Canvas** |
| c. | **Message** |
| d. | **Text** |

ANS: A

6. Which widget allows the user to enter a single line of input from the keyboard?

|  |  |
| --- | --- |
| a. | **Toplevel** |
| b. | **Entry** |
| c. | **Message** |
| d. | **Text** |

ANS: B

7. In an event-driven program, the \_\_\_\_\_\_\_\_\_\_ accepts the user's commands.

|  |  |
| --- | --- |
| a. | register |
| b. | CPU |
| c. | operating system |
| d. | GUI |

ANS: C

8. In an event-driven environment, the user interacts with

|  |  |
| --- | --- |
| a. | the graphical unit |
| b. | the user interface |
| c. | the register |
| d. | the CPU |

ANS: B

9. The acronym GUI stands for

|  |  |
| --- | --- |
| a. | Graphical User's Interface |
| b. | Graphical User Interface |
| c. | Graphical User Interaction |
| d. | Graphical Union Interface |

ANS: B

10. In Python, what module is used to create a GUI program?

|  |  |
| --- | --- |
| a. | **tkinter** |
| b. | **pygui** |
| c. | **python\_gui** |
| d. | **pycanvas** |

ANS: A

11. In a GUI environment most interactions are done through small windows known as \_\_\_\_\_\_\_\_\_\_ that display information and allow the user to perform actions.

|  |  |
| --- | --- |
| a. | input boxes |
| b. | windows |
| c. | dialog boxes |
| d. | message boxes |

ANS: C

12. In a(n) \_\_\_\_\_\_\_\_\_\_ interface, a prompt is displayed that allows the user to enter a command which is then executed.

|  |  |
| --- | --- |
| a. | windows |
| b. | command line |
| c. | GUI |
| d. | operating |

ANS: B

13. In a(n) \_\_\_\_\_\_\_\_\_\_ interface, the user can determine the order in which things happen.

|  |  |
| --- | --- |
| a. | windows |
| b. | command line |
| c. | GUI |
| d. | operating |

ANS: C

14. Which of the following is not a method of the **Canvas** widget?

|  |  |
| --- | --- |
| a. | **create\_line** |
| b. | **create\_oval** |
| c. | **create\_button** |
| d. | **create\_text** |

ANS: C

15. A \_\_\_\_\_\_\_\_\_\_ is a container that can be used to organize the widgets in a window.

|  |  |
| --- | --- |
| a. | **Textbox** |
| b. | **Label** |
| c. | **Frame** |
| d. | **Canvas** |

ANS: C

16. Which of the following must you include with your program so you can display a message to the user with the **showinfo** function?

|  |  |
| --- | --- |
| a. | **import tkinter** |
| b. | **import canvas**  **import messagebox** |
| c. | **import messagebox** |
| d. | **import tkinter**  **import tkinter.messagebox** |

ANS: D

17. Given the following code, which line defines the size of the window?

**import tkinter**

**class myShape:**

**def \_\_init\_\_(self):**

**self.main\_window = tkinter.Tk()**

**self.canvas = tkinter.Canvas(self.main\_window,**

**width=200, height=200)**

**self.canvas.create\_rectangle(30,30, 175, 175)**

**self.canvas.pack()**

**tkinter.mainloop()**

**shape = myShape()**

|  |  |
| --- | --- |
| a. | **self.main\_window = tkinter.Tk()** |
| b. | **self.canvas = tkinter.Canvas(self.main\_window,width=200, height=200)** |
| c. | **self.canvas.create\_rectangle(30,30, 175, 175)** |
| d. | **shape = myShape()** |

ANS: B

18. Given the following code, what are the dimensions, in pixels, of the shape created?

**import tkinter**

**class myShape:**

**def \_\_init\_\_(self):**

**self.main\_window = tkinter.Tk()**

**self.canvas = tkinter.Canvas(self.main\_window,**

**width=200, height=200)**

**self.canvas.create\_rectangle(30,30, 175, 175)**

**self.canvas.pack()**

**tkinter.mainloop()**

**shape = myShape()**

|  |  |
| --- | --- |
| a. | 200 X 200 |
| b. | 30 X 175 |
| c. | 145 X 145 |
| d. | None of these |

ANS: C

**COMPLETION**

1. A(n) \_\_\_\_\_\_\_\_\_\_ allows the user to interact with the operating system and other programs through graphical elements on the screen.

ANS: GUI

2. The GUI popularized the use of the \_\_\_\_\_\_\_\_\_\_ as an input device.

ANS: mouse

3. \_\_\_\_\_\_\_\_\_\_ are small windows that display information and allow the user to perform actions.

ANS: Dialog boxes

4. Since GUI programs respond to the actions of the user, they are called \_\_\_\_\_\_\_\_\_\_ programs.

ANS: event-driven

5. The \_\_\_\_\_\_\_\_\_\_ module allows you to create GUI programs in Python.

ANS: **tkinter**

6. The \_\_\_\_\_\_\_\_\_\_ widget is used to display text in a window.

ANS: **Label**

7. The **Label** widget's \_\_\_\_\_\_\_\_\_\_ method determines where a widget should be positioned and makes the widget visible when the main window is displayed.

ANS: **pack**

8. A(n) \_\_\_\_\_\_\_\_\_\_\_ is a container that can hold other widgets and organize the widgets in a window.

ANS: **Frame**

9. A(n) \_\_\_\_\_\_\_\_\_\_ function is a function or method that executes when the user clicks a button.

ANS: callback, event handler

10. A(n) \_\_\_\_\_\_\_\_\_\_ is a widget that the user can click to cause an action to occur.

ANS: **Button**

11. The \_\_\_\_\_\_\_\_\_\_ widget provides methods that allow the programmer to draw some simple shapes.

ANS: **Canvas**

12. To create a line with the **create\_line** method of the **Canvas** widget, you must include four arguments that represent beginning and ending \_\_\_\_\_\_\_\_\_\_.

ANS: coordinates