



Good Day , Students



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Please check your  
surroundings

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Prayer





# Attendance



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**Recap: Last lesson**

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Are you ready for  
the lesson?

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# GUI Manipulation

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# GUI Manipulation

## Objectives



# GUI Manipulation

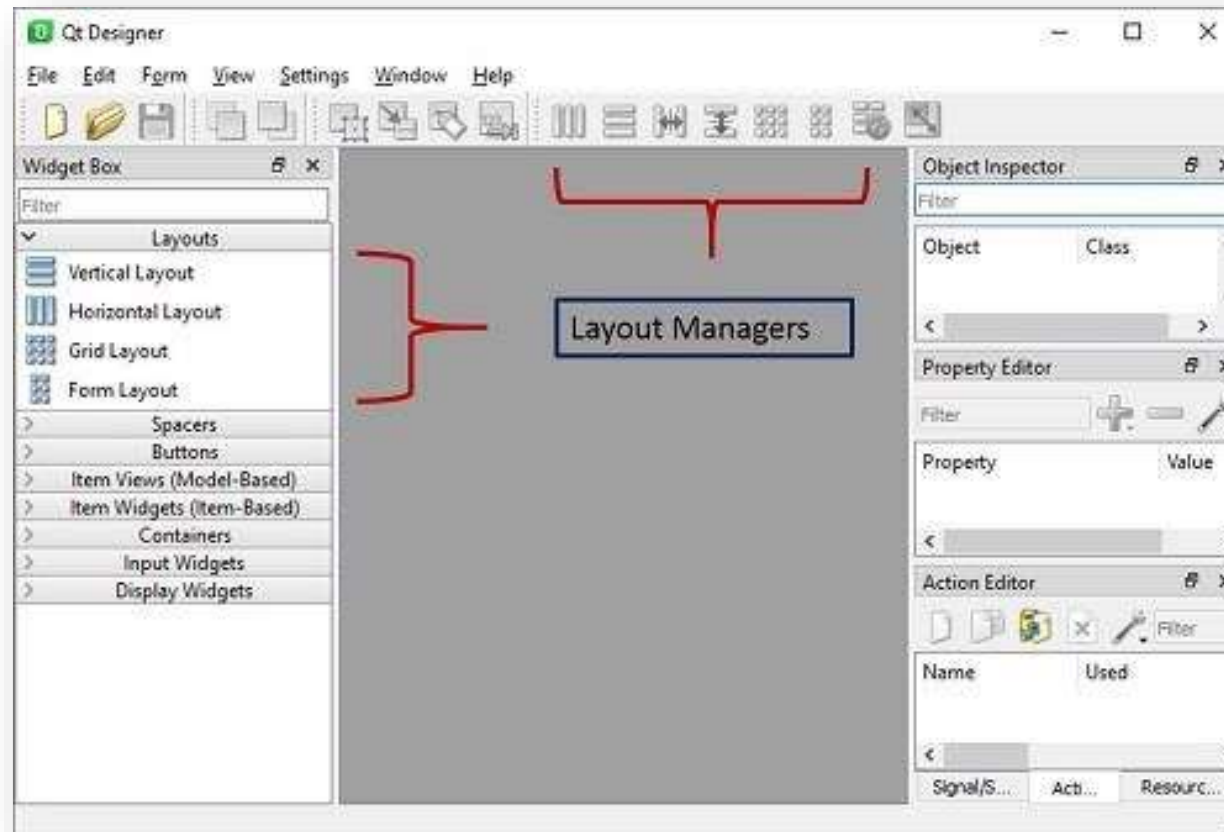
The PyQt5 comes with a GUI builder tool called Qt Designer. Using its simple drag and drop interface, a GUI interface can be quickly built without having to write the code.

Qt Designer != IDE

# GUI Manipulation

## 1. Layout Managers

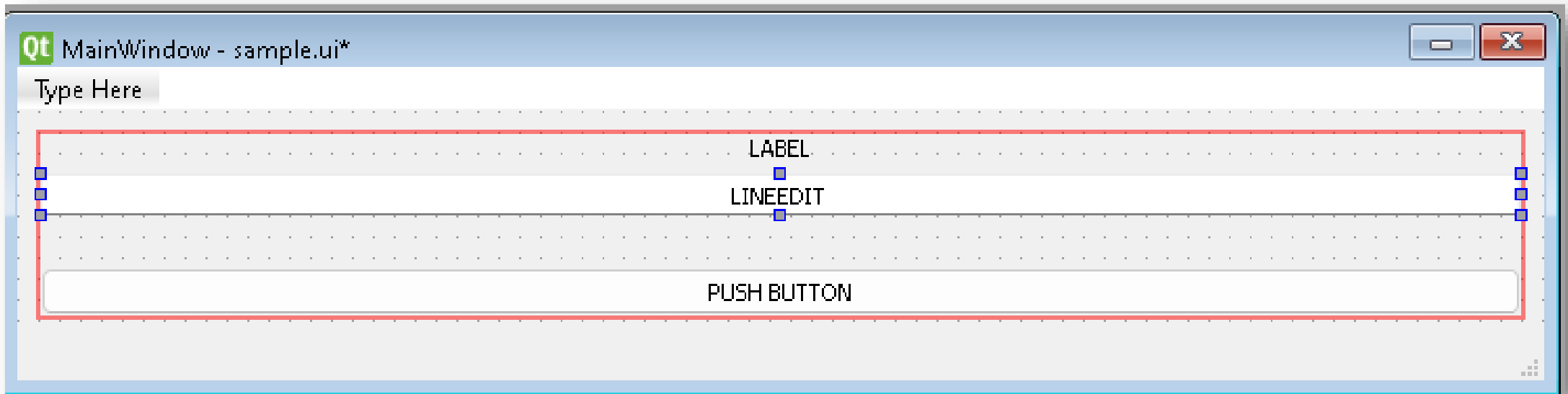
consists of Qbox layout (horizontal & vertical), Qgrid layout, and Qform layout.



# GUI Manipulation

## 2. Basic Widgets

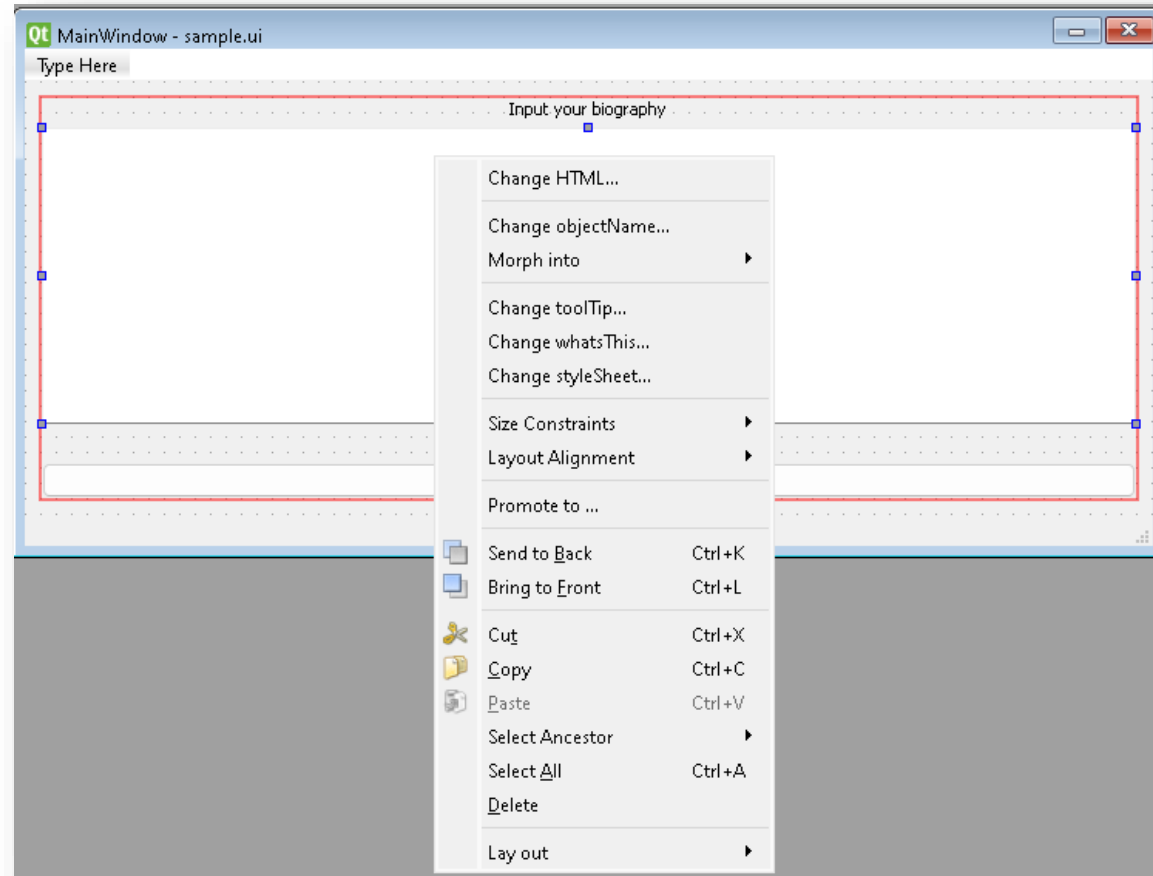
consists of but not limited to `qlabel`, `qlineedit`, and `qpushbutton`.



# GUI Manipulation

## 3. Context Menu

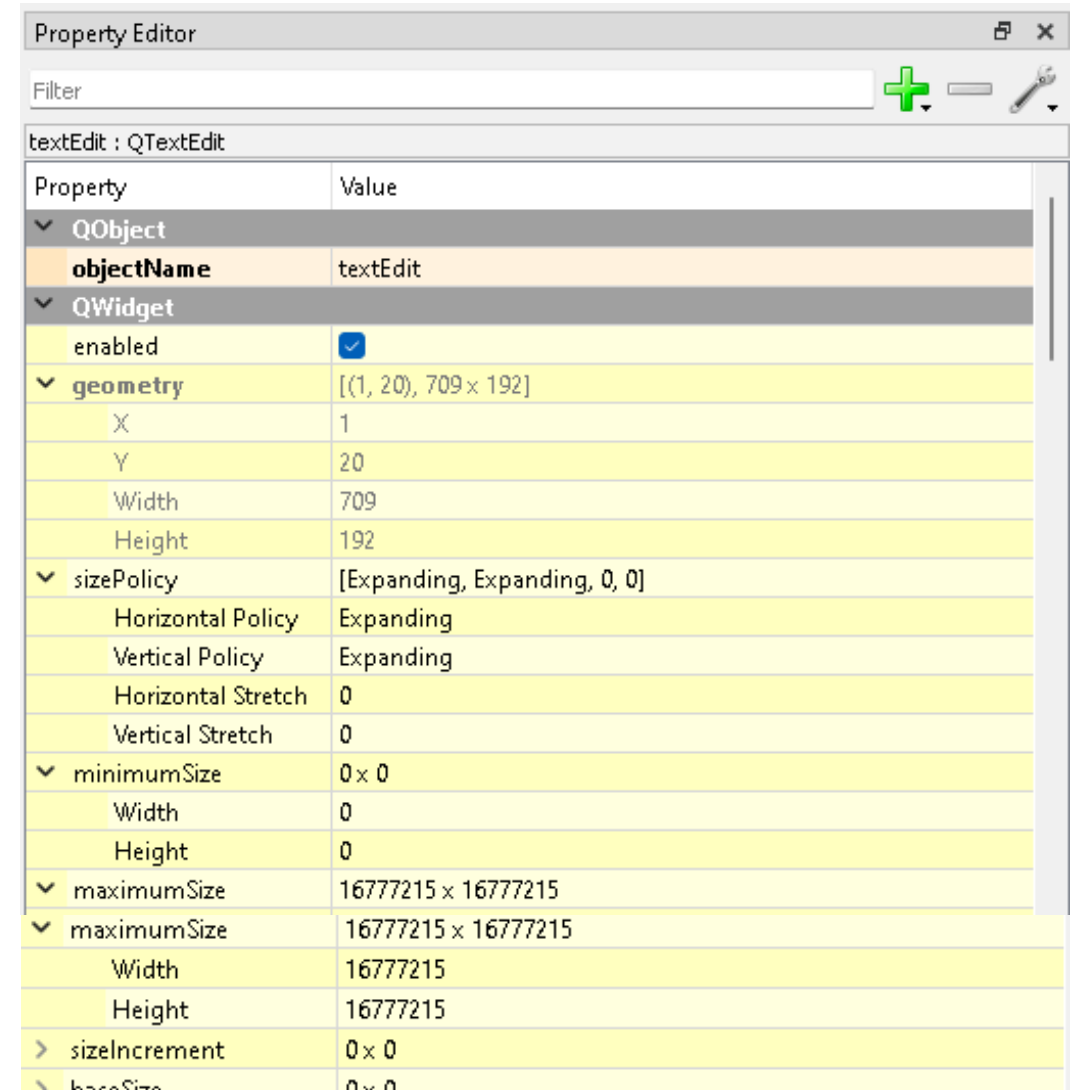
perform multiple functions like morph object to a different widget, stylesheet (font, color, bg-color), and size.



# GUI Manipulation

## 4. Property Editor


where most of the modification can be done.



# GUI Manipulation

## 4. Property Editor

where most of the modification can be done.

Vertical Policy	Expanding
Horizontal Stretch	0
Vertical Stretch	0
▼ minimumSize	0 x 0
Width	0
Height	0
▼ maximumSize	16777215 x 16777215
▼ maximumSize	16777215 x 16777215
Width	16777215
Height	16777215
> sizeIncrement	0 x 0
> baseSize	0 x 0
palette	Inherited
▼ font	A [MS Shell Dlg 2, 8]
Family	MS Shell Dlg 2
Point Size	8
Bold	<input type="checkbox"/>
Italic	<input type="checkbox"/>
Underline	<input type="checkbox"/>
Strikeout	<input type="checkbox"/>
Kerning	<input checked="" type="checkbox"/>
Antialiasing	PreferDefault
cursor	 Arrow
mouseTracking	<input checked="" type="checkbox"/>
tabletTracking	<input type="checkbox"/>
focusPolicy	StrongFocus
contextMenuPolicy	DefaultContextMenu
acceptDrops	<input checked="" type="checkbox"/>
> toolTip	
toolTipDuration	-1
> statusTip	
> whatsThis	
> accessibleName	
> accessibleDescription	
layoutDirection	LeftToRight
autoFillBackground	<input type="checkbox"/>

# GUI Manipulation

## 4. Property Editor

where most of the modification can be done.

focusPolicy	StrongFocus
contextMenuPolicy	DefaultContextMenu
acceptDrops	<input checked="" type="checkbox"/>
> tooltip	
tooltipDuration	-1
> statusTip	
> whatsThis	
> accessibleName	
> accessibleDescription	
layoutDirection	LeftToRight
autoFillBackground	<input type="checkbox"/>
styleSheet	
> locale	English, United States
> inputMethodHints	ImhMultiLine
▼ QFrame	
frameShape	StyledPanel
frameShadow	Sunken
lineWidth	1
midLineWidth	0
▼ QAbstractScrollArea	
verticalScrollBarPolicy	ScrollBarAsNeeded
horizontalScrollBarPo...	ScrollBarAsNeeded
sizeAdjustPolicy	AdjustIgnored
▼ QTextEdit	
> autoFormatting	AutoNone
tabChangesFocus	<input type="checkbox"/>
> documentTitle	
undoRedoEnabled	<input checked="" type="checkbox"/>
lineWrapMode	WidgetWidth
lineWrapColumnOrW...	0
readOnly	<input type="checkbox"/>
> markdown	
> html	<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0//EN" "htt...
overwriteMode	<input type="checkbox"/>
tabStopWidth	80
tabStopDistance	80 000000

# GUI Manipulation

## 4. Property Editor

where most of the modification can be done.

> accessibleName	
> accessibleDescription	
layoutDirection	LeftToRight
autoFillBackground	<input type="checkbox"/>
styleSheet	
> locale	English, United States
> inputMethodHints	ImhMultiLine
▼ QFrame	
frameShape	StyledPanel
frameShadow	Sunken
lineWidth	1
midLineWidth	0
▼ QAbstractScrollArea	
verticalScrollBarPolicy	ScrollBarAsNeeded
horizontalScrollBarPo...	ScrollBarAsNeeded
sizeAdjustPolicy	AdjustIgnored
▼ QTextEdit	
> autoFormatting	AutoNone
tabChangesFocus	<input type="checkbox"/>
> documentTitle	
undoRedoEnabled	<input checked="" type="checkbox"/>
lineWrapMode	WidgetWidth
lineWrapColumnOrW...	0
readOnly	<input type="checkbox"/>
> markdown	
> html	<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0//EN" "htt...
overwriteMode	<input type="checkbox"/>
tabStopWidth	80
tabStopDistance	80.000000
acceptRichText	<input checked="" type="checkbox"/>
cursorWidth	1
> textInteractionFlags	TextSelectableByMouse TextSelectableByKeyboard TextEditabl...
> placeholderText	



# GUI Manipulation

## Connecting GUI to Python

```
from PyQt5 import QtWidgets, uic
import sys
```

```
class MainWindow(QtWidgets.QMainWindow):
    def __init__(self):
        super(MainWindow, self).__init__()
        uic.loadUi('sample.ui', self)
        self.window2 = window_2()
        self.setWindowTitle('Biography Editor')
        self.pushButton.clicked.connect(lambda: self.prompt())

    def btnclicked(self):
        self.window2.label3.setStyleSheet('background-color : green')
        self.window2.plainTextEdit.setPlainText(self.textEdit.toPlainText())
        self.textEdit.clear()
        self.window2.show()
```

```
app = QtWidgets.QApplication(sys.argv)
window =MainWindow()
window.show()
sys.exit(app.exec_())
```

Import PyQt5 and its  
Widgets first

Create a MainWindow Class

Create an instantiation of  
MainWindow class

# GUI Manipulation

Test your skills

# GUI Manipulation

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Test your skills

Instructions: Complete the following code snippet:

```
app = QtWidgets.1(sys.argv)
window = MainWindow()
window.2
sys.exit(app.exec_())
```

```
from 3 import QtWidgets, 4
import 5
```

# GUI Manipulation

## Questions?

# GUI Manipulation

To summarize it all...

# GUI Manipulation

Quiz

# GUI Manipulation

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## Quiz

1. A GUI builder tool in PyQt5 with simple drag and drop function for making interface without writing a code.
  - a. PyQt5
  - b. Qt for Python
  - c. Qt Designer
  - d. PyQt5 Designer
  
2. Also known as containers where most of the widgets are placed into so that objects are displayed properly.
  - a. Property Editor
  - b. Layout Managers
  - c. Basic Widgets
  - d. Context Menu

# GUI Manipulation

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## Quiz

3. This is where you can perform multiple functions like morph object to a different widget, stylesheet (font, color, bg-color), and size.
- a. Property Editor
  - b. Layout Managers
  - c. Basic Widgets
  - d. Context Menu
4. This is where most of the modification and manipulation can be done.
- a. Property Editor
  - b. Layout Managers
  - c. Basic Widgets
  - d. Context Menu



# GUI Manipulation

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## Quiz

5. This consists of buttons, labels, windows, dialogs, progress bars etc.
- a. Property Editor
  - b. Layout Managers
  - c. Basic Widgets
  - d. Context Menu

# GUI Manipulation

## Exchange Papers

# GUI Manipulation

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## Answers

- 1.C - Qt Designer
- 2.B - Layout Managers
- 3.D - Context Menu
- 4.A - Property Editor
- 5.C - Basic Widgets

# GUI Manipulation

## Assignment

# GUI Manipulation

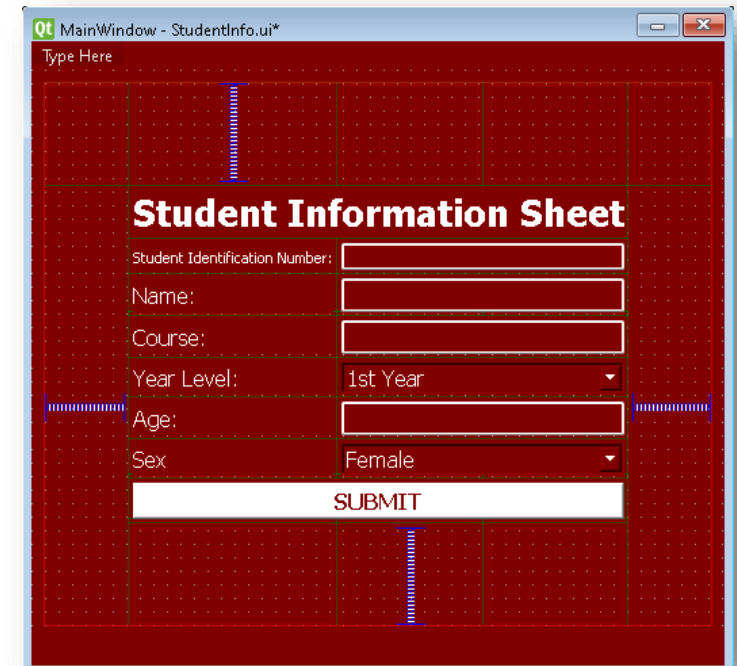
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## Assignment

Direction: Create GUI interface with the following specifications:

- Label "Student Information Sheet"
- Form Layout with widgets inside:
  - Student ID Number
  - Name
  - Course
  - Age
  - Combo box for Sex and Year Level
- Push button "Submit"
- Change bg color, font and font size.
- Window must be interactive when being resized.

Submit the UI file in Google Classroom.



# GUI Manipulation

## Advanced Assignment

# GUI Manipulation

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## Advanced Assignment

Directions: Conduct preliminary research on the following:

- GUI Program Integration Coding

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# GUI Manipulation

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## References

Martin Fitzpatrick (2023, March 16). The complete PyQt5 tutorial — Create GUI applications with Python; PythonGUIs.

[https://www.pythonguis.com/pyqt5-tutorial/?fbclid=IwAR1w0r8vivrmjtj\\_2Fi7BiJA62geewVBSWXR7DKHemm1QTK6jBobkx9BlnQ](https://www.pythonguis.com/pyqt5-tutorial/?fbclid=IwAR1w0r8vivrmjtj_2Fi7BiJA62geewVBSWXR7DKHemm1QTK6jBobkx9BlnQ)

abhileknathdas111 (2022, December 19). Introduction to PyQt5; Geeksforgeeks.

<https://www.geeksforgeeks.org/python-introduction-to-pyqt5/?fbclid=IwAR1SWIYLRbuFcMpuL2abHCvgiizKtUQkIX5Kawo6eRnfjGb97w2R0I45M0E>

Michael Herrmann (2023). PyQt5 tutorial: fman build system [https://build-system.fman.io/pyqt5-tutorial?fbclid=IwAR362ANumNSnudHpUYZAIQZDESjSBmn6w43A732U1xQGtY2f\\_jGRAY-NvQU](https://build-system.fman.io/pyqt5-tutorial?fbclid=IwAR362ANumNSnudHpUYZAIQZDESjSBmn6w43A732U1xQGtY2f_jGRAY-NvQU)

Tutorialspoint (2023). PyQt5 Tutorial [https://www.tutorialspoint.com/pyqt5/pyqt5\\_using\\_qt\\_designer.htm](https://www.tutorialspoint.com/pyqt5/pyqt5_using_qt_designer.htm)

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# GUI Manipulation

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Thank You

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