

Chapter 11 – Layout

addinlayout application

Step 1 Open Qt Designer

- Open the QtDesigner by selecting the Qt Designer program icon



Step 2 Open the Tab Widget application

- Click the Open Button
- Locate the `addtwonum.ui` previously created in Chapter 7

Step 3 Save the application as

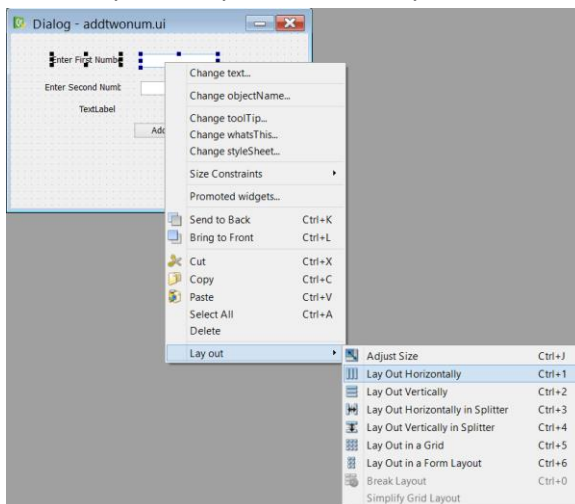
- Click File > Save As
- Save the file as `addinlayout.ui`

Step 4 Changing the form to include a layout

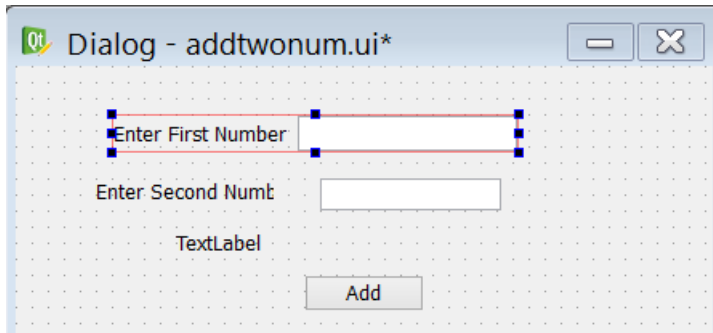
- A layout is used to arrange and manage widgets of a user interface within it. Read the textbook text on layouts
- Add the following widget to the form:

Widget	Property	Value
QPushButton (Buttons section)	objectName text	pushButton_2 Cancel

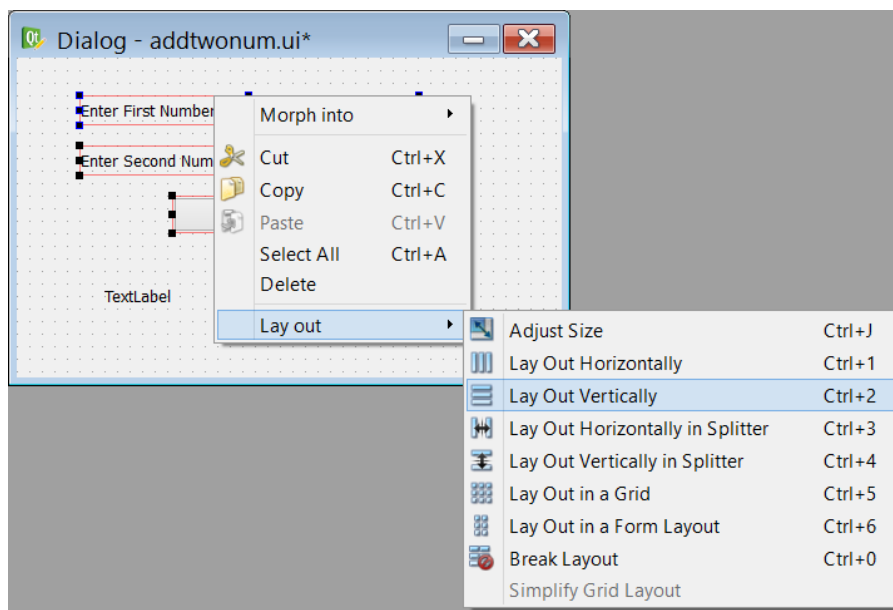
- Now add a horizontal layout.
- Click the Enter First Number label
- Press and hold Ctrl and click on the first Line Edit
- Right click to activate the menu
- Select Layout > Layout Horizontally



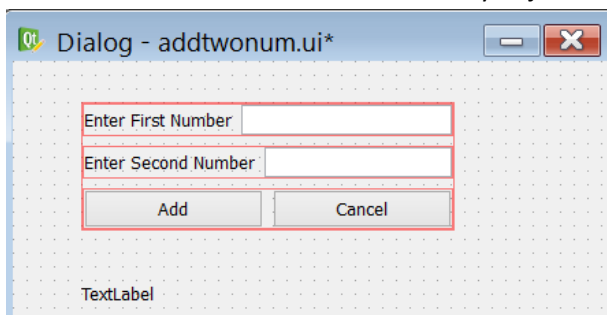
- The label and line edit will be laid out horizontally and a red box will appear around the widgets



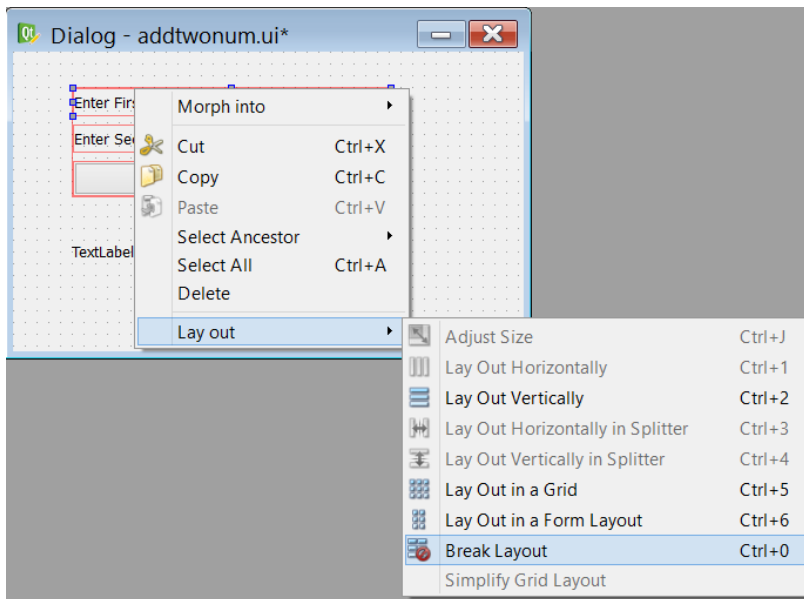
- Repeat the process for the Enter Second Number label and the second number line edit
- Repeat the process for the Add and Cancel buttons
- To apply a vertical layout now to all three sets of widget layouts do the following:
 - Click on the red line of the first layout
 - Press and hold Ctrl and click on the second layout
 - Press and hold Ctrl and click on the third layout
 - Right click to activate the menu
 - Select Layout > Layout Vertically



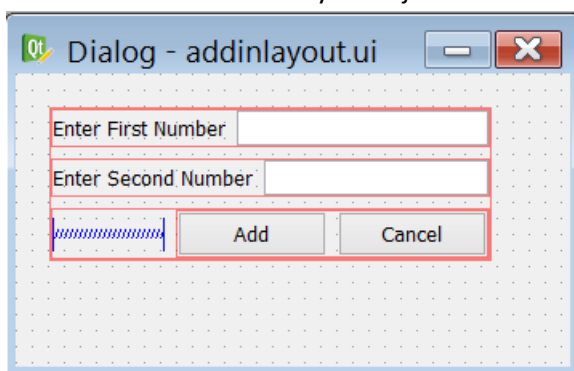
- The size of the buttons are automatically adjusted to fit the layout



- We can add spacers into the layout to control the size of the buttons
- Break the vertical layout by right clicking on the outer red box
- Select Layout > Break layout



- Also break the horizontal layout for the buttons in the same way.
- Drag a horizontal spacer from the Spacer section of the widgetbox next to the buttons on the form and adjust its size
- Select the space and two buttons together using the Ctrl-click combination
- Right click to activate the menu
- Select Layout > Layout Horizontally
- Right click to activate the menu
- Select the three horizontal layouts together using the Ctrl-click combination
- Select Layout > Layout Vertically
- The sizes will automatically be adjusted



Step 5 Save the form

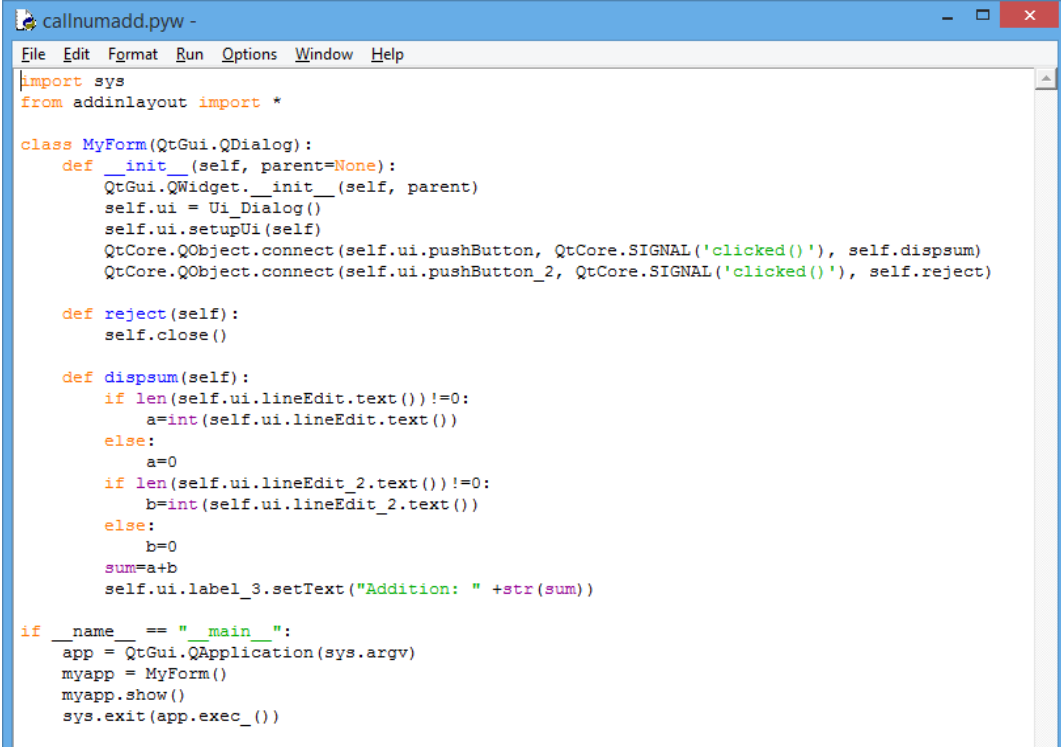
- Save the file as `addinlayout.ui` **(note the case!! Python is case sensitive)**

Step 6 Convert the .ui file to a .py file

- Convert the `addinlayout.ui` file to `addinlayout.py` using `pyuic4`. **(note the case!! Python is case sensitive, so even on file names the case must be the same throughout)**

Step 7 Create a source file (.pyw) that imports the .py file

- Create a source file that will import the .py file created in step above and from which we will invoke the user interface
- Use the following code **(note the indentation and case!!)**



```
callnumadd.pyw -
File Edit Format Run Options Window Help
import sys
from addinlayout import *

class MyForm(QtGui.QDialog):
    def __init__(self, parent=None):
        QtGui.QWidget.__init__(self, parent)
        self.ui = Ui_Dialog()
        self.ui.setupUi(self)
        QtCore.QObject.connect(self.ui.pushButton, QtCore.SIGNAL('clicked()'), self.dispsum)
        QtCore.QObject.connect(self.ui.pushButton_2, QtCore.SIGNAL('clicked()'), self.reject)

    def reject(self):
        self.close()

    def dispsum(self):
        if len(self.ui.lineEdit.text())!=0:
            a=int(self.ui.lineEdit.text())
        else:
            a=0
        if len(self.ui.lineEdit_2.text())!=0:
            b=int(self.ui.lineEdit_2.text())
        else:
            b=0
        sum=a+b
        self.ui.label_3.setText("Addition: " +str(sum))

if __name__ == "__main__":
    app = QtGui.QApplication(sys.argv)
    myapp = MyForm()
    myapp.show()
    sys.exit(app.exec_())
```

- Save the file as `callnumadd.pyw`
- Run and test the application.