GOOD AFTERNOON CLASS

PRAYER

Attendance

RECAP

RECAP

a. What is File handling

b. What is Exception handling

DECODER

Rules:

- The objective is to decode the numbers.
- with each number corresponding to displayed letters on the monitor.
- The participant who successfully unravels the numbers first will be awarded a prize.

16 25 20 8 15 14

4 5 19 7 14 5 18 16

9 14 19 20 1 12 12

A	B	C	D	E	F	G	H	I	J	K
1	2	3	4	5	6	7	8	9	10	11

L	M	N	O	P	Q	R	S	T	U	V	W
12	13	14	15	16	17	18	19	20	21	21	23

X	Y	Z
24	25	26

PYTHON

DESIGNER

INSTALL

PYQT5

INSTALLATION

WHAT IS PYQT5

PyQt5

- is a set of Python bindings for the Qt application framework and runs on all platforms supported by Qt including Windows, OS X, Linux, iOS, and Android.

- is a popular choice for developing desktop applications with a (GUI).

PyQt5

- is a set of Python bindings for the Qt application framework and runs on all platforms supported by Qt including Windows, OS X, Linux, iOS, and Android.

- is a popular choice for developing desktop applications with a graphical user interface (GUI).

PyQt

is a GUI widgets toolkit. It is a Python interface for Qt, one of the most powerful, and popular cross-platform GUI libraries. PyQt was developed by RiverBank Computing Ltd.

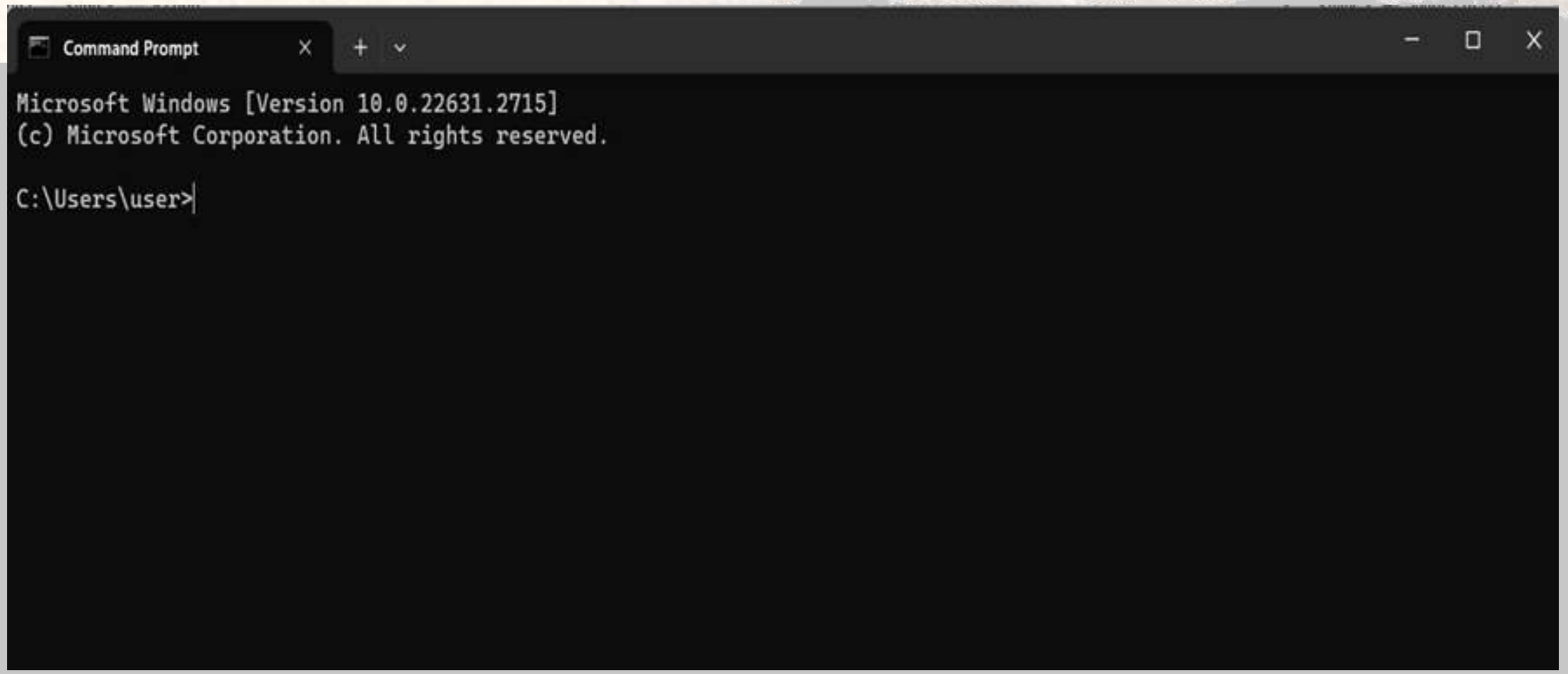
There are so many options provided by Python to develop GUI applications and PyQt5 is one of them. PyQt5 is a cross-platform GUI toolkit, a set of python bindings for Qt v5. One can develop an interactive desktop application with so much ease because of the tools and simplicity provided by this library. A GUI application consists of Front-end and Back-end.

PyQt5 has provided a tool called ‘**QtDesigner’** to design the front-end by drag and drop method so that development can become faster, and one can give more time on back-end stuff.

Qt Designer is a Qt tool that provides you with a what-you-see-is-what-you-get (WYSIWYG) user interface to create GUIs for your PyQt applications productively and efficiently. With this tool, you create GUIs by dragging and dropping QWidget objects on an empty form.

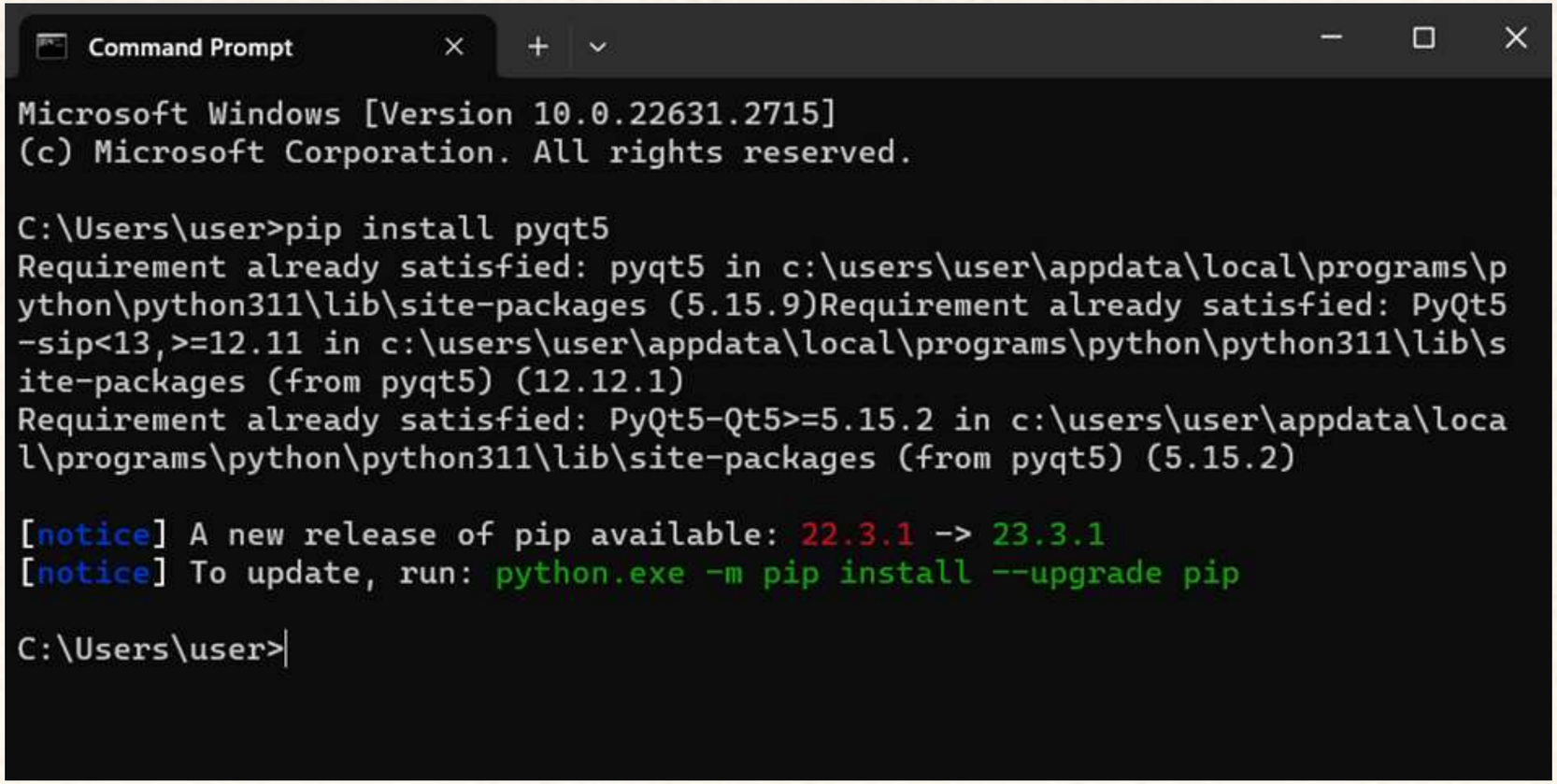
Installating PyQt5

- Access the Command Prompt window. Make sure that you are in your user directory.



Installation: First, we need to install PyQt5 library. For this, type the following command in the terminal or command prompt:

Type pip install pyqt5



PyQt5 provides lots of tools and QtDesigner is one of them. For this run this command:

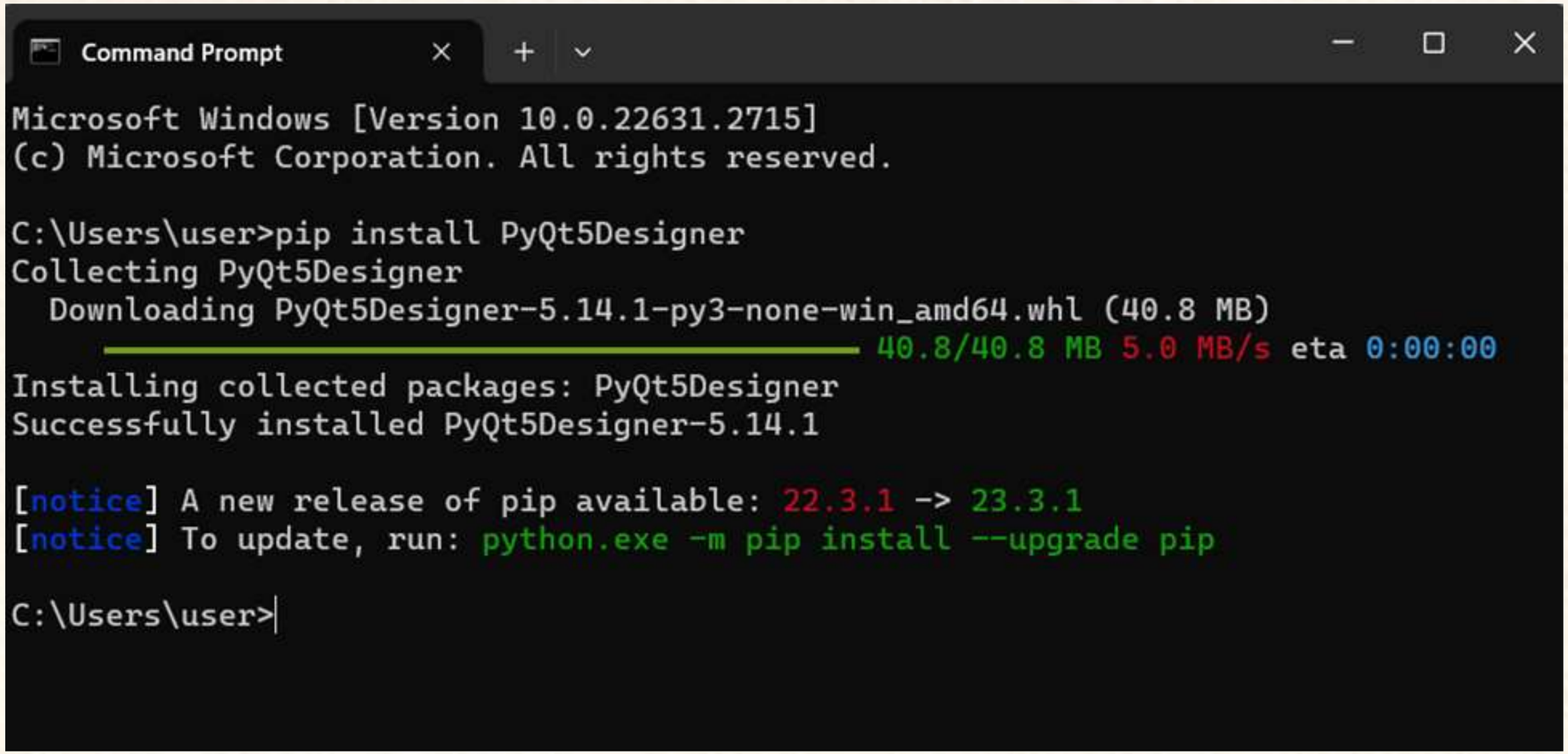
```
pip install PyQt5-tools
```

```
[notice] To update, run: python.exe -m pip install --upgrade pip

C:\Users\user>pip install pyqt5-tools
Requirement already satisfied: pyqt5-tools in c:\users\user\appdata\local\programs\python\python311\lib\site-packages (5
.15.9.3.3)
Requirement already satisfied: click in c:\users\user\appdata\local\programs\python\python311\lib\site-packages (from py
qt5-tools) (8.1.3)
Requirement already satisfied: pyqt5==5.15.9 in c:\users\user\appdata\local\programs\python\python311\lib\site-packages
(from pyqt5-tools) (5.15.9)
Requirement already satisfied: pyqt5-plugins<5.15.9.3,>=5.15.9.2.2 in c:\users\user\appdata\local\programs\python\python
311\lib\site-packages (from pyqt5-tools) (5.15.9.2.3)
Requirement already satisfied: python-dotenv in c:\users\user\appdata\local\programs\python\python311\lib\site-packages
(from pyqt5-tools) (1.0.0)
Requirement already satisfied: PyQt5-sip<13,>=12.11 in c:\users\user\appdata\local\programs\python\python311\lib\site-pa
ckages (from pyqt5==5.15.9->pyqt5-tools) (12.12.1)
Requirement already satisfied: PyQt5-Qt5>=5.15.2 in c:\users\user\appdata\local\programs\python\python311\lib\site-packa
ges (from pyqt5==5.15.9->pyqt5-tools) (5.15.2)
Requirement already satisfied: qt5-tools<5.15.2.2,>=5.15.2.1.2 in c:\users\user\appdata\local\programs\python\python311\
lib\site-packages (from pyqt5-plugins<5.15.9.3,>=5.15.9.2.2->pyqt5-tools) (5.15.2.1.3)
Requirement already satisfied: colorama in c:\users\user\appdata\local\programs\python\python311\lib\site-packages (from
 click->pyqt5-tools) (0.4.6)
Requirement already satisfied: qt5-applications<5.15.2.3,>=5.15.2.2.2 in c:\users\user\appdata\local\programs\python\pyt
hon311\lib\site-packages (from qt5-tools<5.15.2.2,>=5.15.2.1.2->pyqt5-plugins<5.15.9.3,>=5.15.9.2.2->pyqt5-tools) (5.15.
2.2.3)

[notice] A new release of pip available: 22.3.1 -> 23.3.1
[notice] To update, run: python.exe -m pip install --upgrade pip
```

Alternative:

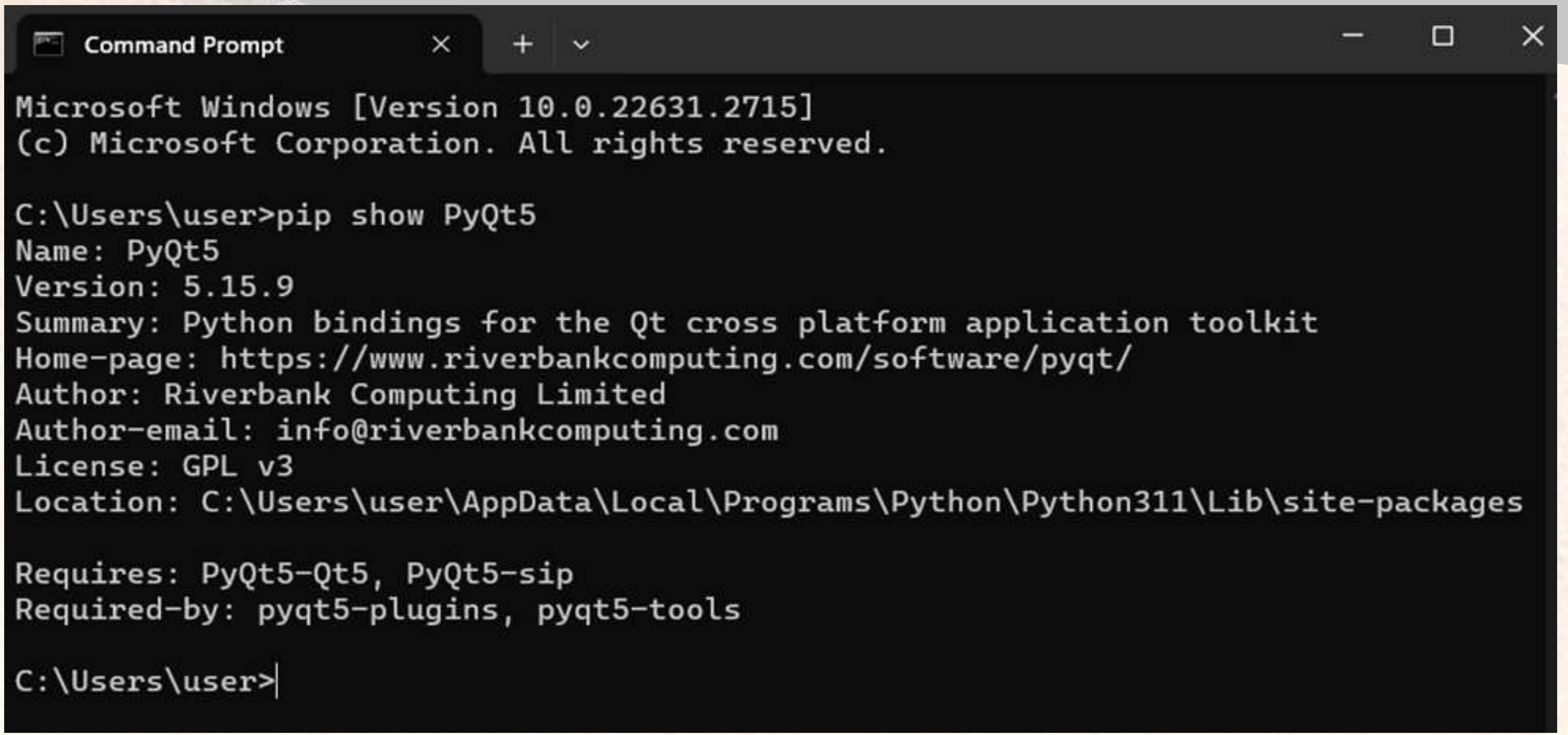
Type: pip install PyQt5Designer in Command Prompt if the previous installation command does not work.

```
pip install PyQt5Designer
```



Checking if your installation is complete. For this, type the following command in the terminal or command prompt:

“pip show PyQt5”



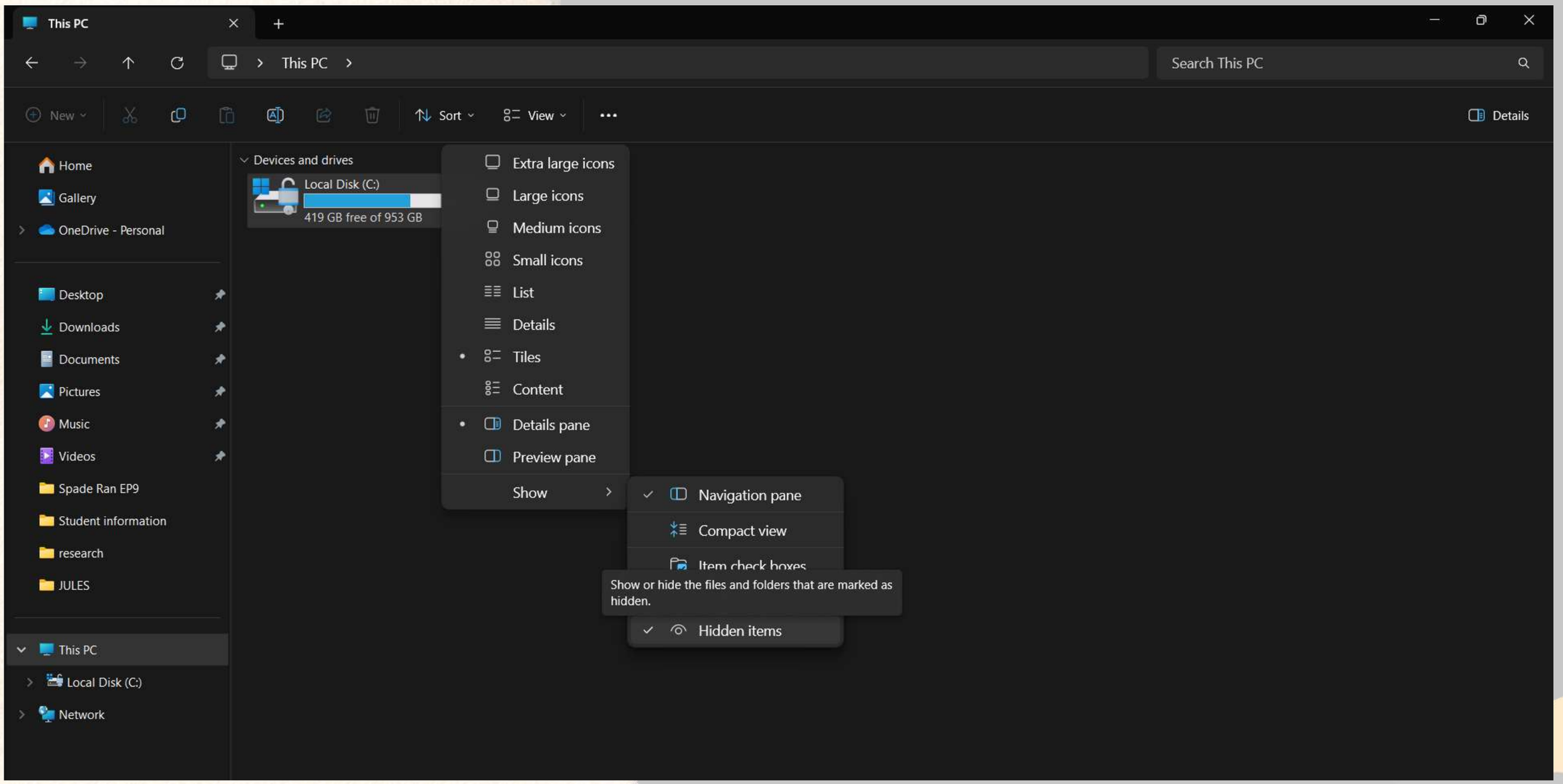
LOCATING DESIGNER FILE:

- Locate the program directory and create a shortcut on your Desktop for easy access. Below is the typical location of the application. Make sure that show the hidden files before locating the program.

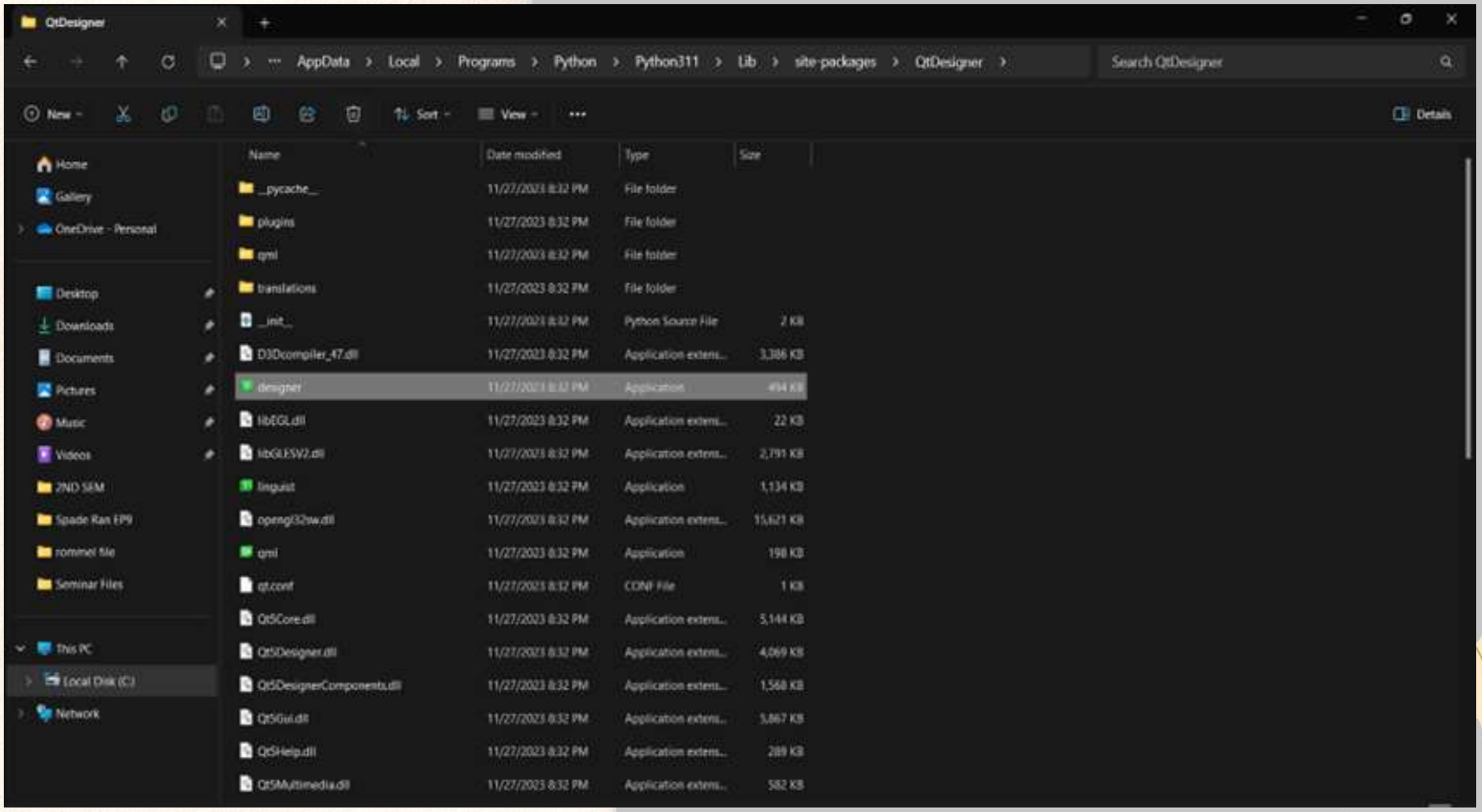
- C:\Users\UserName\AppData\Local\Programs\Python\Python39\Lib\site-packages\QtDesigner

- C:\Users\UserName\AppData\Local\Programs\Python\Python39\Lib\site-packages\qt5_applications\Qt\bin

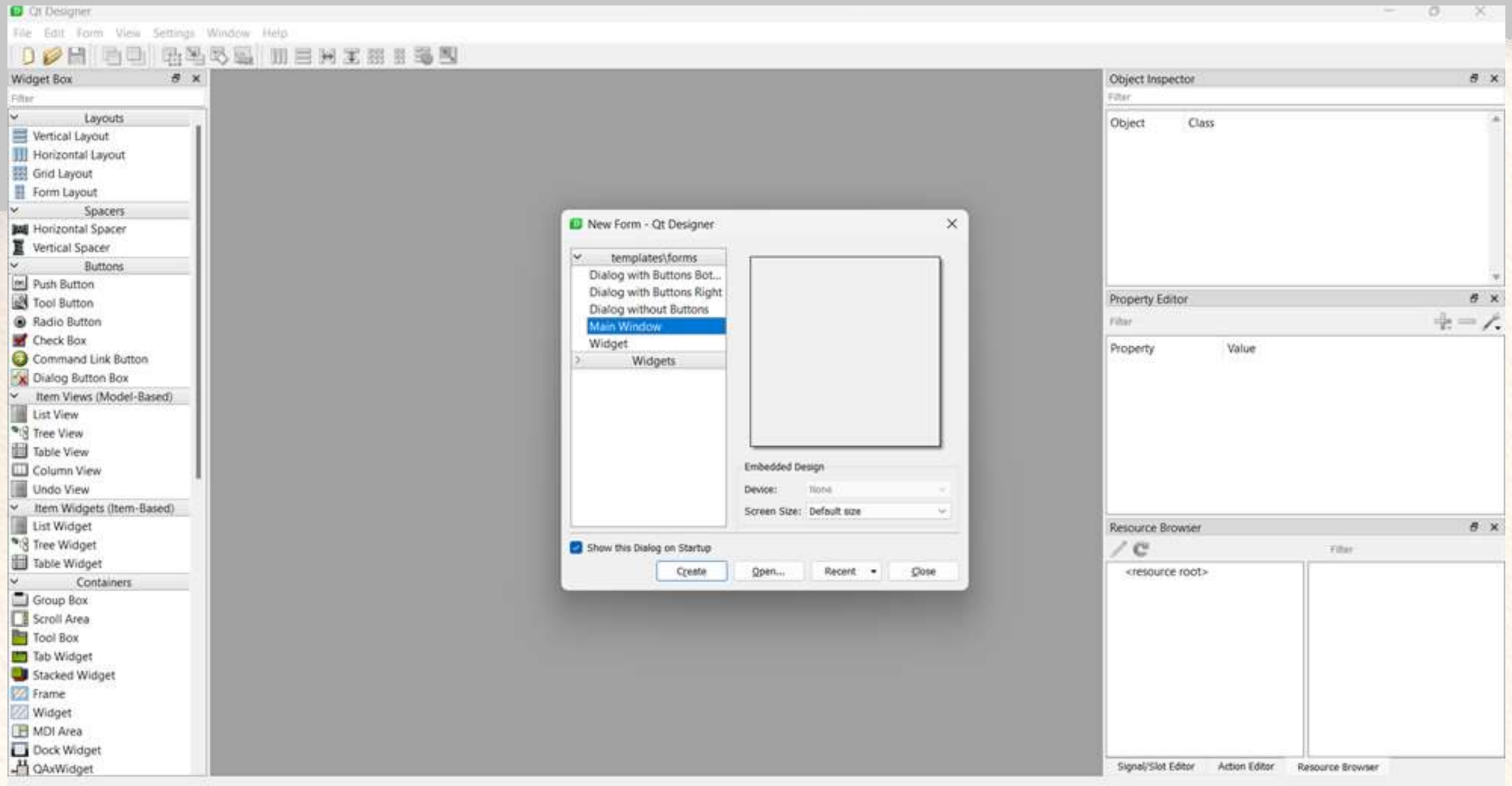
LOCATING DESIGNER FILE:



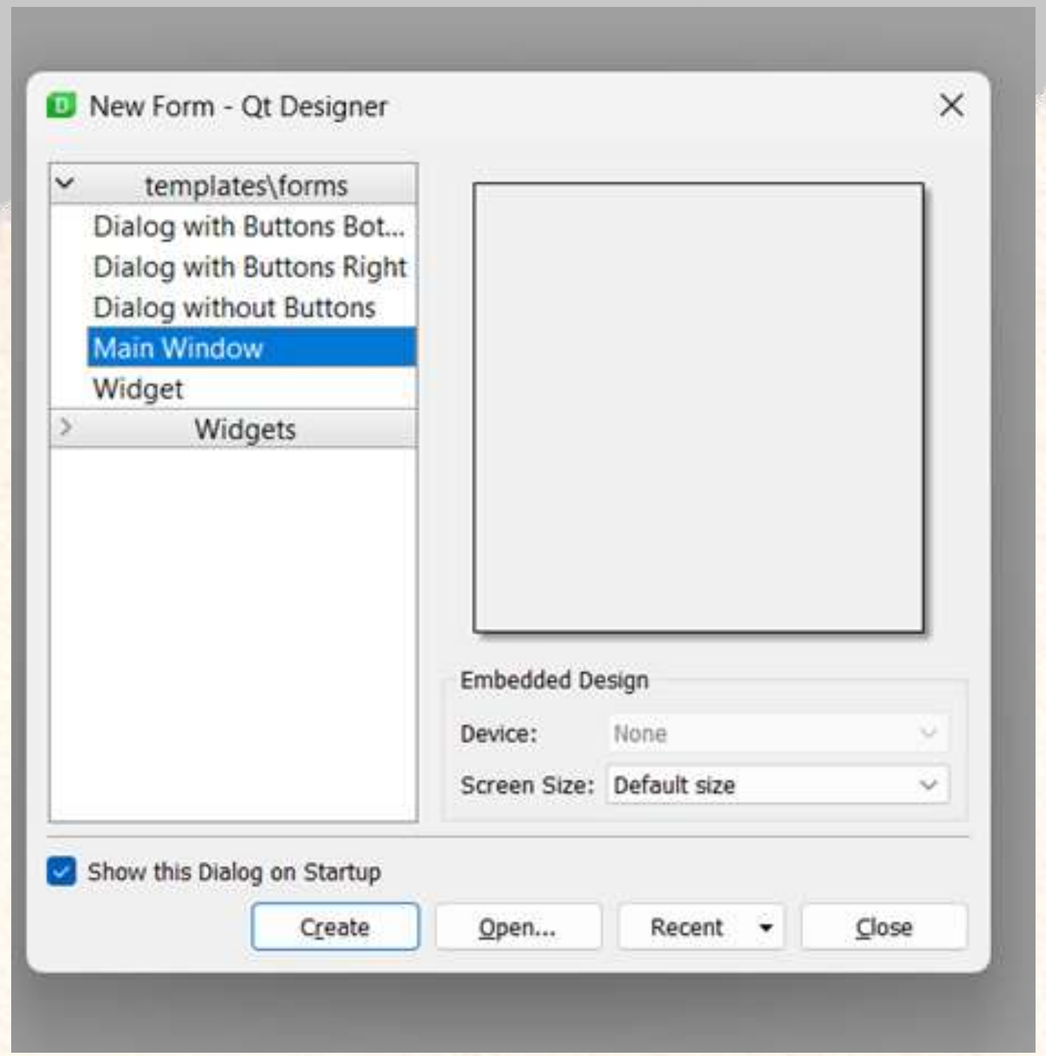
LOCATING DESIGNER FILE:



THE WINDOW IN THE FOREGROUND IS QT DESIGNER'S NEW FORM DIALOG.
THE WINDOW IN THE BACKGROUND IS QT DESIGNER'S MAIN WINDOW.



To create a new and empty form using a Qt Designer template, you just need to select the desired template from the New Form dialog and then click Create or Alt + N press on your keyboard

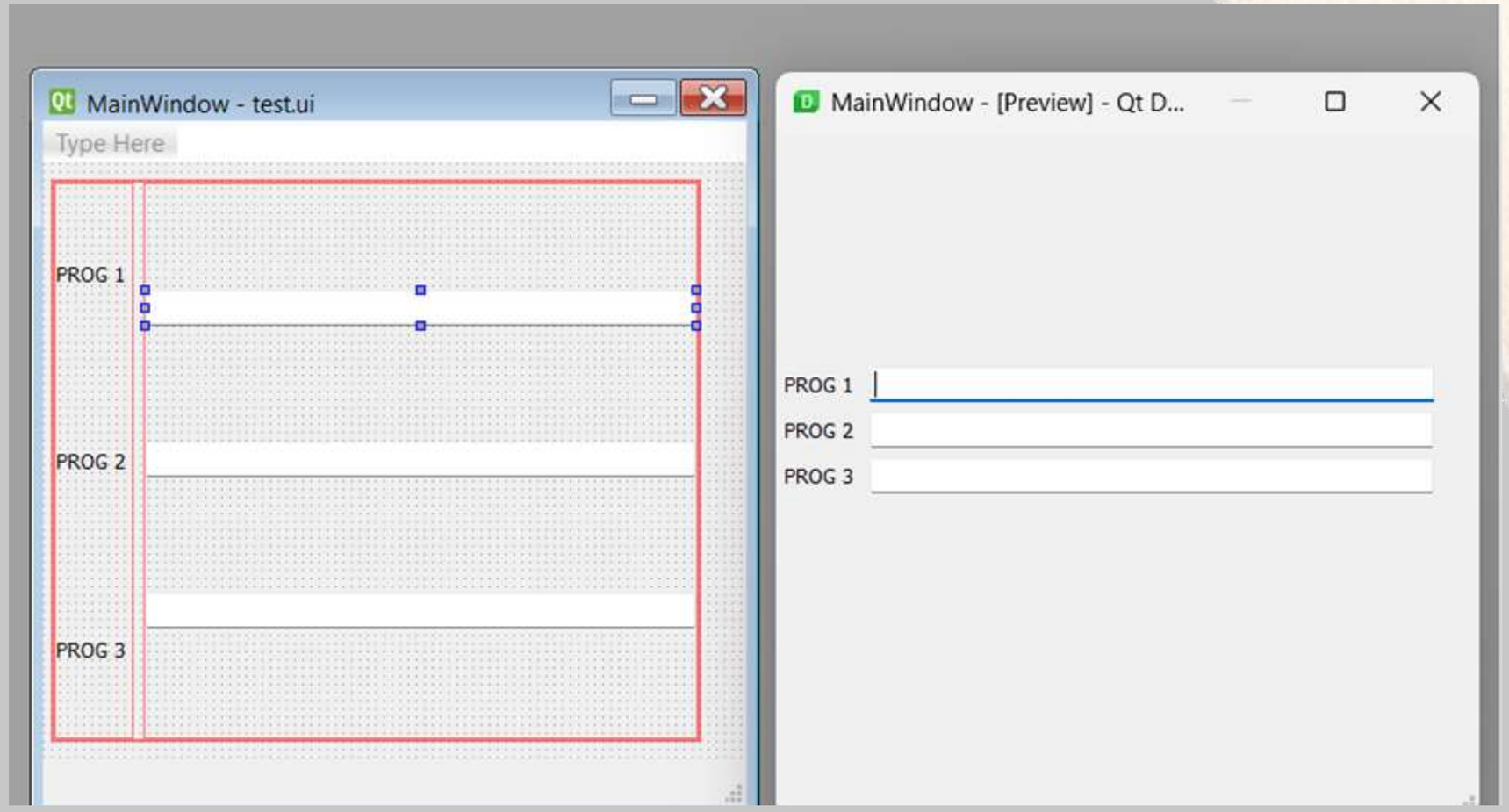


Working With Qt Designer’s Main Window

Qt Designer’s main window provides a menu bar with options for saving and managing forms, editing forms, and changing the edit mode, laying out and previewing forms, and also for tuning the application’s settings and accessing its help documentation:

The Widget Box provides a selection of layout managers, spacers, standard widgets, and other objects that you can use to create a GUI for your dialogs and windows:

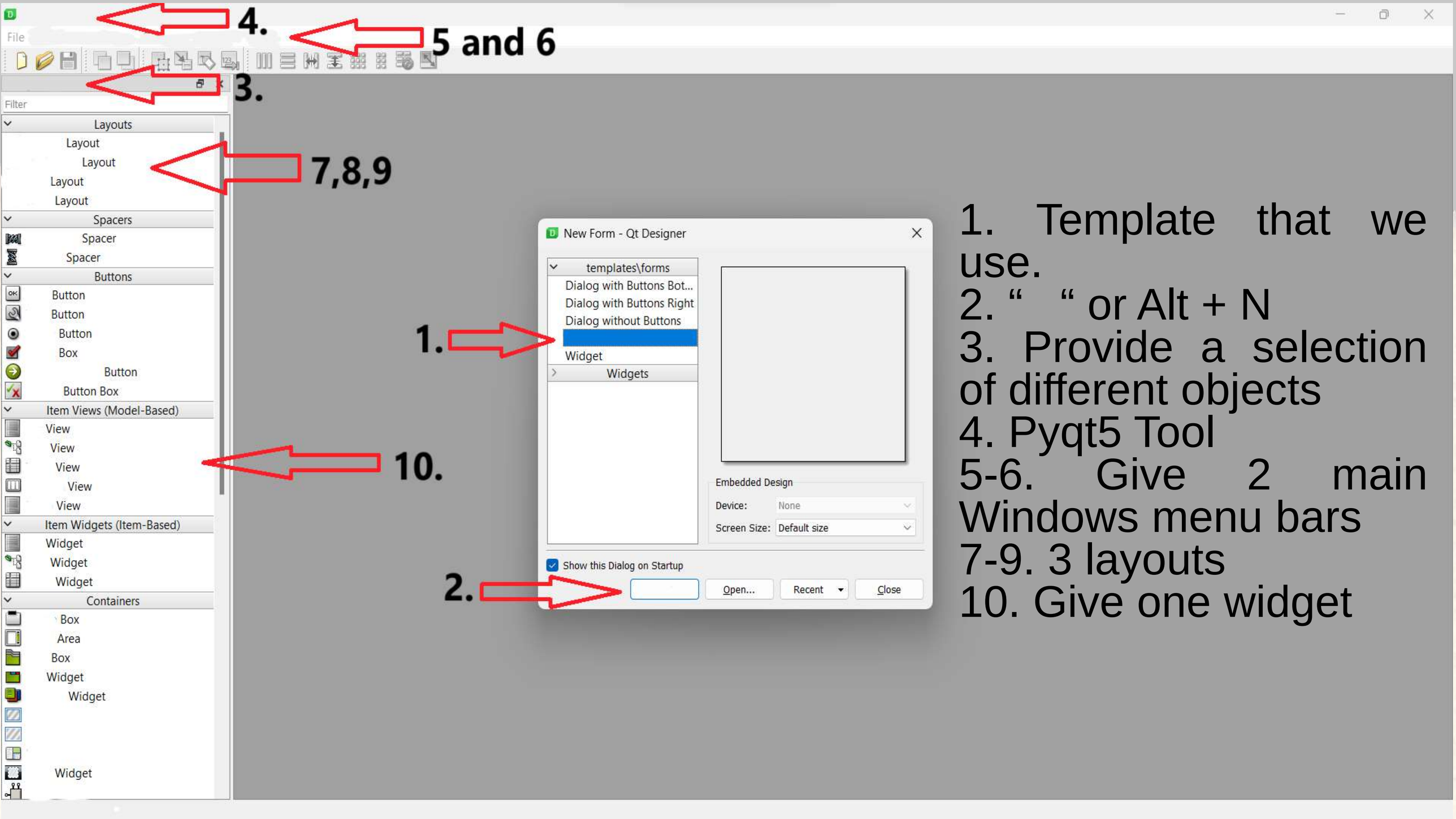
The Widget Box provides a filter option at the top of the window. You can type the name of a given object or widget and get quick access to it. The objects are grouped into categories that reflect their specific use. You can show or hide all the available objects in a category by clicking the handle next to the category label.



Individual Activity

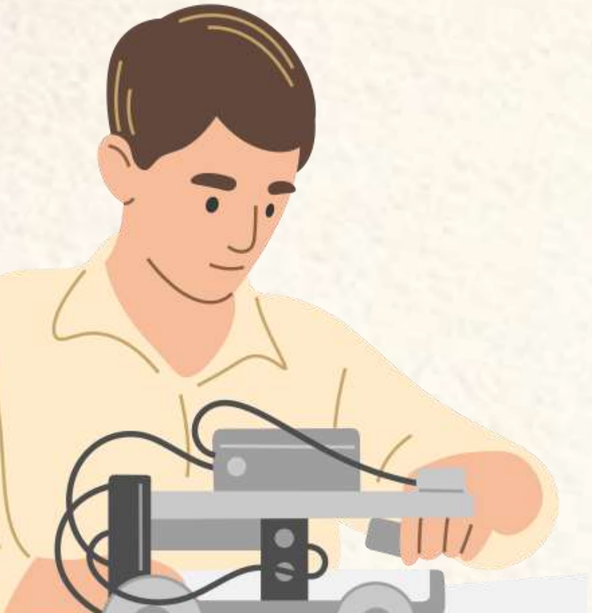
Instruction: Identify the components of the pyqt5. Each component is labeled with a number.

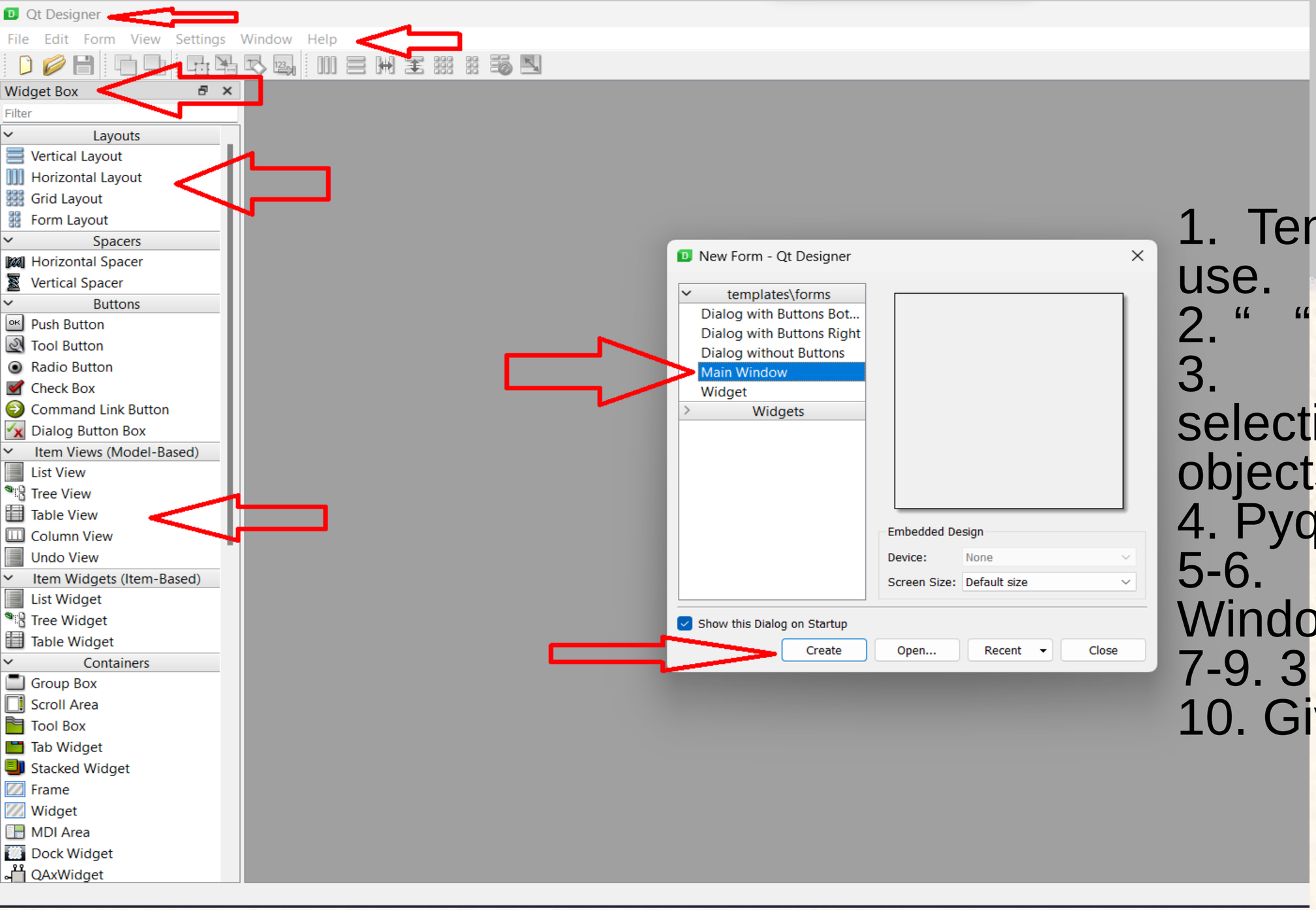
A hint is provided to enable students to know the hidden components.



1. Template that we use.
2. “ “ or Alt + N
3. Provide a selection of different objects
4. Pyqt5 Tool
5-6. Give 2 main Windows menu bars
7-9. 3 layouts
10. Give one widget

TIMES UP CLASS !!!





1. Template that we use.
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Quiz

Set A. Matching Type Test

Direction: Match Column A with Column B. Write only the letter in column B.

Column A	Column B
1. What is PyQt5?	a. A cross-platform GUI toolkit and a set of Python bindings for Qt v5.
2. What is QtDesigner?	b. A tool provided by PyQt5 for designing the front-end of GUI applications using a drag and drop method.
3. Where is the typical location of the QtDesigner application?	c.C:\Users\UserName\AppData\Local\Programs\Python\Python39\Lib\site-packages\QtDesigner
4. What is the purpose of the 'Qt Designer's New Form' dialog?	d. The foreground window in Qt Designer, used for creating a new form.
5. How do you create a new and empty form using a Qt Designer template?	e. Select the desired template from the New Form dialog and then click Create or press Alt+N on your keyboard.

Set B. Multiple Choice

Direction: Encircle the correct answer.

1.What is PyQt5 primarily used for?

a) Web development
b) Mobile app development
c) Desktop applications with GUI
d) Database management

2. PyQt5 has provided a tool called ‘ ’ to layout the front-end by drag and drop method

a) Qt Widgets Module
b) Qt Network Module
c) Qt Designer
d) Qt GUI

Set B. Multiple Choice

3.GUI stands for?

a) Graphical User Interface
b) Graphic User Interface
c) Graphics User Interaction
d) Graphical User Interaction

4. provides a selection of layout managers, spacers, standard widgets, and other objects that you can use to create a GUI for your dialogs and windows.

a) Widget Tools
b) Widget Box
c) Widget Objects
d) Widget Layout

Set B. Multiple Choice

5.PyQt was developed by?

a) CodeCraft Solutions, Inc.

b) ByteForge Technologies

c) RiverBank Computing Ltd.

d) Nexus Dev Labs

TIMES UP

ANSWER KEY:

1. Answer: A cross-platform GUI toolkit and a set of Python bindings for Qt v5.
2. Answer: A tool provided by PyQt5 for designing the front-end of GUI applications using a drag and drop method.
3. Answer: C:\Users\UserName\AppData\Local\Programs\Python\Python39\Lib\sitepackages\QtDesigner
4. Answer: The foreground window in Qt Designer, used for creating a new form.
5. Answer: Select the desired template from the New Form dialog and then click Create or press Alt+N on your keyboard.
6. C. Desktop applications with GUI
7. C. Qt Designer
8. A. Graphical User Interface
9. B.Widget Box
10. C. RiverBank Computing Ltd.

Assignment

Assignment

Advance

- **Create your Code:**
- **Instruction:** Building upon the design phase, this assignment guides you through the implementation of your program using the PyQt5 library for creating graphical user interfaces (GUIs) in Python. The goal is to bring your design to life and create a functional prototype of your program.

    - Reference/s Needed to do Assignments.

    - https://nitratine.net/blog/post/how-to-import-a-pyqt5-ui-file-in-a-python-gui/

REFERENCES

- Python Tutorial. (n.d.). https://pythonbasics.org/install-pyqt/

- Python | Introduction to PyQt5. (n.d.). https://www.geeksforgeeks.org/python-introduction-to-pyqt5/

- Python, R. (2023, March 12). QT Designer and Python: Build your GUI applications faster.
- https://realpython.com/qt-designer-python/#:~:text=pyqt5%20installs%20PyQt%20and%20a,qt5_applications%2FQt%2Fbin%2Fdesigner

Thank You !
any Questions?