

## OBJECT ORIENTED PROGRAMMING 2 LABORATORY

### Experiment # 11:

### QT 2

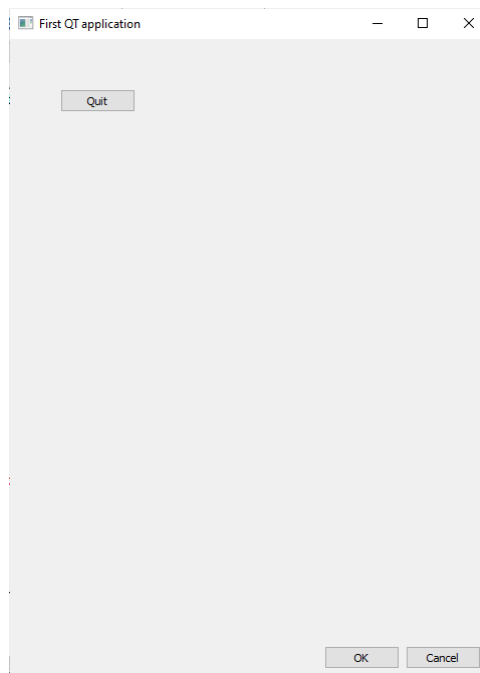
#### **OBJECTIVES**

The main purpose of this experiment is to introduce you to Qt. In this experiment, firstly, some basic concepts such as widgets, layout management, and slot mechanism are examined. Then, some examples are studied.

#### **QUESTIONS**

1) Write a Python program to create the window given in Figure 1.

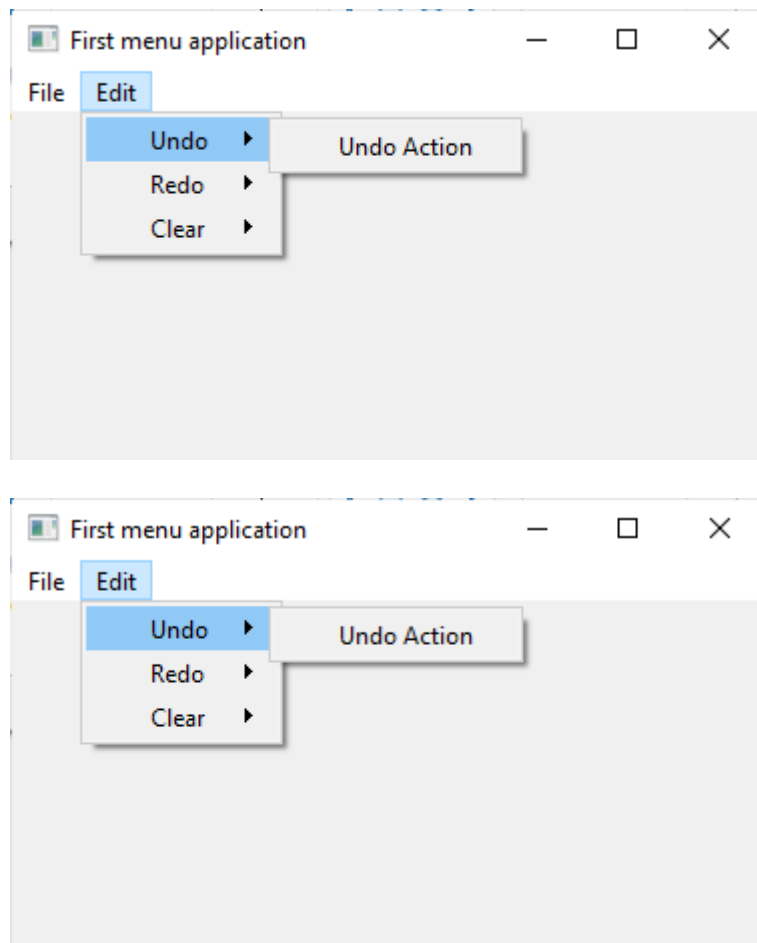
- i) Create a window with size 480x640 pixels. The position of the window on the screen must be at x=500 and y=500. The name of the window must be "First QT application". For this purpose, create a subclass derived from QWidget class. Then, implement a method which is called initUI. In the method, create the window and specify the properties.
- ii) Add an icon to the window.
- iii) Add a push button to the window. The push button will be used to close the window.
- iv) Implement a method to position the window at the center of the screen.
- v) Implement a method which is called closeEvent to raise a message box when the user clicks on the X button on the title bar. The message must ask the user "Are you sure to quit?" Then, depending on the answer, the window must close or not.
- vi) Add two push buttons (OK and Cancel) to the window. Then, place the buttons in the bottom-right corner of the window. Use horizontal and vertical box layouts.



**Fig. 1** An example window

2) Write a Python program to create the window and standard menu given in Figure 2.

- i) Create a window with size 120x160 pixels. The position of the window on the screen must be at x=200 and y=200. The name of the window must be "First menu application". For this purpose, create a subclass derived from QMainWindow class. Then, implement a method which is called initUI. In the method, create the window and specify the properties.
- ii) In the initUI method, create a menu bar with two menus (File and Edit). For file menu add an action which is named exit to terminate the application. Also, define a shortcut (Ctrl+Q) for that action. For edit menu, create a sub menu that includes undo, redo, and clear. Add actions for these sub menus.



**Fig. 2** An example window and menu