File Name: Lab9.py
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Date: 2/26/19
Description: In this lab we are experimenting and implementing a GUI using python.

Task1: This task was the toughest because making a screen is tons of work

```
(cst205env) C:\Users\PaulW\Documents\School Spring 2019\CST 205\Python>pip install pyqt5
Requirement already satisfied: pyqt5 in c:\users\paulw\documents\school spring 2019\cst 205\python\envs\cst205env\lib\si
te-packages (5.12)
Requirement already satisfied: PyQt5_sip<4.20,>=4.19.14 in c:\users\paulw\documents\school spring 2019\cst 205\python\en
vs\cst205env\lib\site-packages (from pyqt5) (4.19.14)
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> from PyQt5 import QtWidgets
>>>
```

Task2: In this task we took most of the code from the slides and modified the name of the GUI.

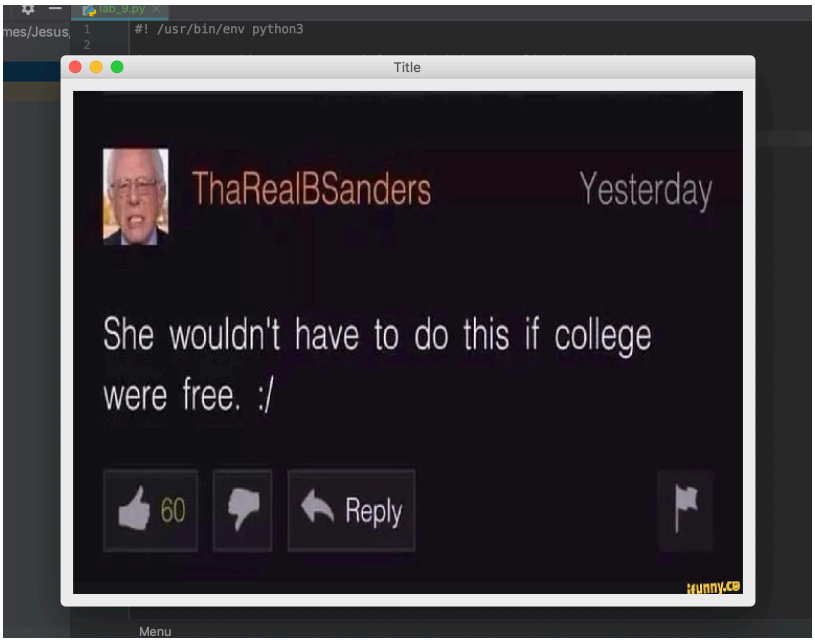
```python
from PyQt5.QtWidgets import QLabel, QMainWindow, QApplication, QWidget, QVBoxLayout, QPushButton
from PyQt5.QtGui import QPixmap
from PyQt5.QtCore import pyqtSlot
import sys

"""
Task 2
"""


class MainWindow(QWidget):
    def __init__(self):
        super().__init__();
        self.setWindowTitle("Michael Avalos-Garcia, Jesus Andres Bernal Lopez, Paul Whipp")
        self.resize(500, 300)


if __name__ == "__main__":
    app = QApplication(sys.argv)
    mainWin = MainWindow()
    mainWin.show()
    status = app.exec_()
    sys.exit(status)
```

Result:

Task3: In this task we had a little fun choosing the image to use, we had trouble resizing the image to be proportionate to the initial window size but other than that it was straightforward.

```python
from PyQt5.QtWidgets import QLabel, QMainWindow, QApplication, QWidget, QVBoxLayout
from PyQt5.QtGui import QPixmap
import sys


class Menu(QMainWindow):
    def __init__(self):
        super().__init__()
        self.setWindowTitle("Title")

        self.central_widget = QWidget()
        self.setCentralWidget(self.central_widget)
        lay = QVBoxLayout(self.central_widget)

        label = QLabel(self)
        pixmap1 = QPixmap('img/sanders.jpg')
        self.pixmap = pixmap1.scaled(self.width(), self.height())
        label.setPixmap(self.pixmap)
        self.resize(self.pixmap.width(), self.pixmap.height())

        lay.addWidget(label)
        self.show()


if __name__ == '__main__':
    app = QApplication(sys.argv)
    ex = Menu()
    sys.exit(app.exec_())
```

Result:



Task4: In this task we took the code from the button slide and expanded on it, everything went smoothly here

```
from PyQt5.QtWidgets import QLabel, QMainWindow, QApplication, QWidget, QVBoxLayout,
QPushButton
from PyQt5.QtCore import pyqtSlot
import sys
```

```
class MainWindow(QWidget):
    """Expanding the QWidget class"""
    def __init__(self):
        super().__init__()
        self.setWindowTitle("Michael Avalos-Garcia, Jesus Andres Bernal Lopez, Paul
Whipp")
        self.resize(500, 300)

        vbox = QVBoxLayout()

        # Make 3 buttons and label
        self.michael_btn = QPushButton("Michael", self)
        self.michael_lbl = QLabel('Michael', self)
        self.michael_btn.clicked.connect(self.michael_clicked)

        self.jesus_btn = QPushButton("Jesus", self)
        self.jesus_lbl = QLabel('Jesus', self)
        self.jesus_btn.clicked.connect(self.jesus_clicked)

        self.paul_btn = QPushButton("Paul", self)
        self.paul_lbl = QLabel('Paul', self)
        self.paul_btn.clicked.connect(self.paul_clicked)

        # Add the buttons and labels to the layout
        vbox.addWidget(self.michael_btn)
        vbox.addWidget(self.michael_lbl)
        vbox.addWidget(self.jesus_btn)
        vbox.addWidget(self.jesus_lbl)
        vbox.addWidget(self.paul_btn)
        vbox.addWidget(self.paul_lbl)

        # Setting the layout to our created layout
        self.setLayout(vbox)

    @pyqtSlot()
    def michael_clicked(self):
        """Handles the action when this button is clicked"""
        self.__set_default__()
        self.michael_lbl.setText("You have clicked on Michael")

    @pyqtSlot()
    def jesus_clicked(self):
        """Handles the action when this button is clicked"""
        self.__set_default__()
        self.jesus_lbl.setText('You have clicked on Jesus')

    @pyqtSlot()
    def paul_clicked(self):
        """Handles the action when this button is clicked"""
        self.__set_default__()
        self.paul_lbl.setText('You have clicked on Paul')

    def __set_default__(self):
```

```
        """Updates the labels to their original message"""
        self.michael_lbl.setText('Michael')
        self.jesus_lbl.setText('Jesus')
        self.paul_lbl.setText('Paul')
        self.paul_lbl.adjustSize()
        self.jesus_lbl.adjustSize()
        self.michael_lbl.adjustSize()


if __name__ == "__main__":
    app = QApplication(sys.argv)
    mainWin = MainWindow()
    mainWin.show()
    status = app.exec_()
    sys.exit(status)
```

Result: