Classy GUIs

Using object oriented programming to write better GUIs

Enable native scrolling

OO GUI programming

```
1   class ButtonsWindow(object):
2       def __init__(self):
3           self.setup_buttons()
4
5       def run(self):
6           self.window.mainloop()
```

...

The code above contains an object oriented approach to GUI programming

but it also contains a few errors and unimplemented functionality

fix the program so that whenever a button is pressed the corrseponding text is `print()`ed on the terminal

Working example

```
1   class PrintingButton(object):
2       def __init__(self, window, label):
3           self.label= label
4           self.button= tk.Button(
5               window, text=label,
6               command= self.on_pressed
7           )
8           self.button.pack()
9
10      def on_pressed(self):
11          print(self.label)
```

...

ATduino library

Download and flash the atuino Arduino sketch introduced in tutorial 16

Copy the content of the atuino python code into a file called `atuino.py`

Open a terminal, `cd` into the directory where you saved the `atuino.py` file and type

`python` (on Windows) / `python3` (everywhere else) to start an interactive python session

ATduino library

```
1  >>> import atuino
2  >>> arduino= atuino.Arduino('/dev/ttyACM0')
3  >>> led= atuino.OutputPin(arduino, 13)
4  >>> led.turn_on()
5  >>> led.turn_off()
```

Enter the python statements above into the interactive session, remember to replace `/dev/ttyACM0` with the actual name of your serial port
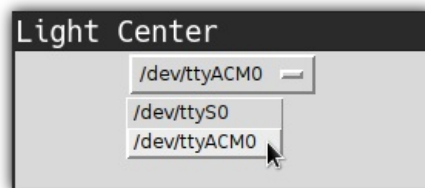
The `led.turn_on`/`led.turn_off` statements should turn the on-board LED on/off

Hint: You can use the Arduino IDE to find the name of your serial port
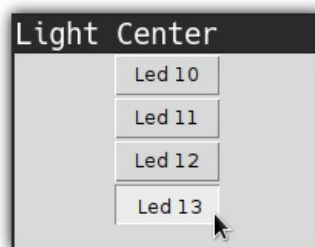
Port selector

This program should provide a drop-down menu to select a serial port but some parts are missing, fix them

Once the program is fixed and you select the correct port, the LEDs on your Arduino should flash
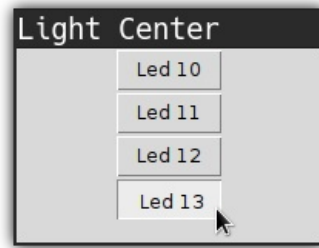
LED Buttons

This program contains a working drop-down list and displays buttons to control the LEDs attached to the Arduino

The LED controlling part does not work, find out why and fix the problem

Working example

[...](...)