CamJam EduKit Worksheet Four

Project Interact with the user and input your choice.

Description In this project, you will control the red, yellow, or the green LEDs depending on your choice.

Equipment Required

The circuit built in CamJam EduKit Worksheet Two.

Code

You are going to use the same circuit again, but this time you are going to control the LEDs with user input. This worksheet will introduce user input as well as using variables to store information that will be used in later code.

Explanations have been placed within the code. These are called 'comments' and in Python they are the text following the '#' symbol. Nothing after the # will be run, and can be left out if you want.

1. Change directory to the directory you created in Worksheet One using:

```
cd ~/EduKit/
```

2. Create a new text file "4-user-input.py" by typing the following:

```
nano 4-user-input.py
```

3. Type in the following code:

```
#Load Libraries
import os
import time
import RPi.GPIO as GPIO

GPIO.setmode(GPIO.BCM)  #Set the GPIO pin naming mode
GPIO.setwarnings(False) #Supress warnings

#Set up variables to store the pin numbers
LEDRed = 18
LEDYellow = 23
LEDGreen = 24

#Set the LED pins to output
GPIO.setup(LEDRed, GPIO.OUT)
GPIO.setup(LEDYellow, GPIO.OUT)
GPIO.setup(LEDGreen, GPIO.OUT)

#Setup variables for user input
led_choice = 0
count = 0
```

Code

```
LEDChosen = 0
os.system('clear') #Clears the screen
print "Which LED would you like to blink?"
print "1: Red"
print "2: Yellow"
print "3: Green"

#Prints prompts to the screen and waits for input from the user
led_choice = input("Choose your option: ")
count = input("How many times would you like it to blink?: ")

#Set the LEDChosen variable depending on the LED choice
if led_choice == 1:
     print "You picked the Red LED"
     LEDChosen = LEDRed
if led_choice == 2:
     print "You picked the Yellow LED"
     LEDChosen = LEDYellow
if led_choice == 3:
     print "You picked the Green LED"
     LEDChosen = LEDGreen

# If a valid LED above is chosen, the value of LEDChosen will
# have been set to a value other than 0, so flash the LED
if LEDChosen<>0:
     while count > 0:
          GPIO.output(LEDChosen, GPIO.HIGH)
          time.sleep(1)
          GPIO.output(LEDChosen, GPIO.LOW)
          time.sleep(1)
          count = count - 1

GPIO.cleanup()
```

Once complete use “Ctrl + x” then “y” then “enter” to save the file.

Running the Code

To run this code type:

```
sudo python 4-user-input.py
```

The screen will clear, and you will be prompted for which LED you want to turn on or off. Enter 1, 2, or 3. You will then be prompted for how many times you want the LEDs to flash. The LED you chose will then flash the number of times you requested.

Note

Do not disassemble this circuit, as it will be used in the following worksheets.