CamJam EduKit Worksheet Four

Project Interact with the user and input your choice.

Description In this project, you will control the red, yellow, or 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, although best practice is to use comments to remind you what you intended your code to do.

Create a new file in IDLE3 and type in the following:

```
# CamJam Edukit 1 - Basics
# Worksheet 4 - User Input

# Import Libraries
import os                # Allows you to interact with the operating system
import time              # A collection of time related commands
from gpiozero import LED # The LED functions from GPIO Zero

# Set pins 18, 23 and 24 to be LEDs
red = LED(18)
yellow = LED(23)
green = LED(24)

os.system('clear') # Clears the screen

# Asks the user which colour LED to blink
print("Which LED would you like to blink?")
print("1: Red?")
print("2: Yellow?")
print("3: Green?")
chosenLED = input("Choose your option: ")
# Ensure that the chosenLED variable is a whole number (integer)
chosenLED = int(chosenLED)

# Asks the user how many times they want the LED to blink
count = input("How many times would you like it to blink? ")
# Ensure that the count variable is a whole number (integer)
count = int(count)

# Sets the variable 'LEDChoice' to be the LED choice
if chosenLED == 1:
    print("You picked the red LED")
    LEDChoice = red
```

```
elif chosenLED == 2:
    print("You picked the yellow LED")
    LEDChoice = yellow
elif chosenLED == 3:
    print("You picked the green LED")
    LEDChoice = green

# If the LED choice is greater than zero
if chosenLED > 0:
    # While the count variable is greater than zero
    while count > 0:
        LEDChoice.on()    # Turn the chosen LED on
        time.sleep(1)     # Sleep for 1 second
        LEDChoice.off()   # Turn the chosen LED off
        time.sleep(2)     # Sleep for 2 seconds
        count = count - 1 # Decrease the count by one
```

Once complete save the file as `4-user-input.py` in the EduKit directory.

Running the Code

Run the code by selecting the Run Module menu option, under the Run menu item, or you can just press the F5 key.

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.