PAYTHON CODE FOR BLINKIN LED AND TRAFFIC

LIGHT FOR RASPBERRY PI

* For this worksheet you'll need breadboard, three LEDs, a button, a buzzer, and the necessary jumper cables and resistors.

Wiring:

* To get started, you'll need to place all the components on the breadboard and connect them to the appropriate GPIO pins on the Raspberry Pi.

First, you need to understand

* how each component is connected:
* A push button requires 1 ground pin and 1 GPIO pin
* An LED requires 1 ground pin and 1 GPIO pin, with a current limiting resistor
* A buzzer requires 1 ground pin and 1 GPIO pin
* Each component requires its own individual GPIO pin, but components can share a ground pin. We will use the breadboard to enable this.

Observe the following table:

|  |  |
| --- | --- |
| COMPOMENT | GPIO PIN |
| Button | 21 |
| Red LED | 25 |
| Amber LED | 8 |
| Green LED | 7 |
| Buzzer | 15 |
|  |

code:

//Dive into Python

from gpiozero import Button

button = Button(21)

while True:

print(button.is\_pressed)

while True:

if button.is\_pressed:

print("Hello")

else:

print("Goodbye")

while True:

button.wait\_for\_press( )

print("Pressed")

button.wait\_for\_release( )

print("Released")

//Add an LED

from gpiozero import Button, LED

led = LED(25)

while True:

button.wait\_for\_press( )

led.on( )

button.wait\_for\_release( )

led.off( )

while True:

led.blink( )

button.wait\_for\_press( )

led.off( )

button.wait\_for\_release( )

//Traffic lights

from gpiozero import Button, TrafficLights

lights = TrafficLights(25, 8, 7)

while True:

button.wait\_for\_press( )

lights.on( )

button.wait\_for\_release ( )

lights.off( )

while True:

lights.blink( )

button.wait\_for\_press( )

lights.off( )

button.wait\_for\_release( )

//Add a buzzer

from gpiozero import Button, TrafficLights, Buzzer

buzzer = Buzzer(15)

while True:

lights.on( )

buzzer.off( )

button.wait\_for\_press( )

lights.off( )

buzzer.on( )

button.wait\_for\_release( )

//Traffic lights sequence

from time import sleep

while True:

lights.green.on()

sleep(1)

lights.amber.on()

sleep(1)

lights.red.on()

sleep(1)

lights.off()

while True:

button.wait\_for\_press()

lights.green.on()

sleep(1)

lights.amber.on()

sleep(1)

lights.red.on()

sleep(1)

lights.off()