Khoi Duong

Prof. Yang

CE450L

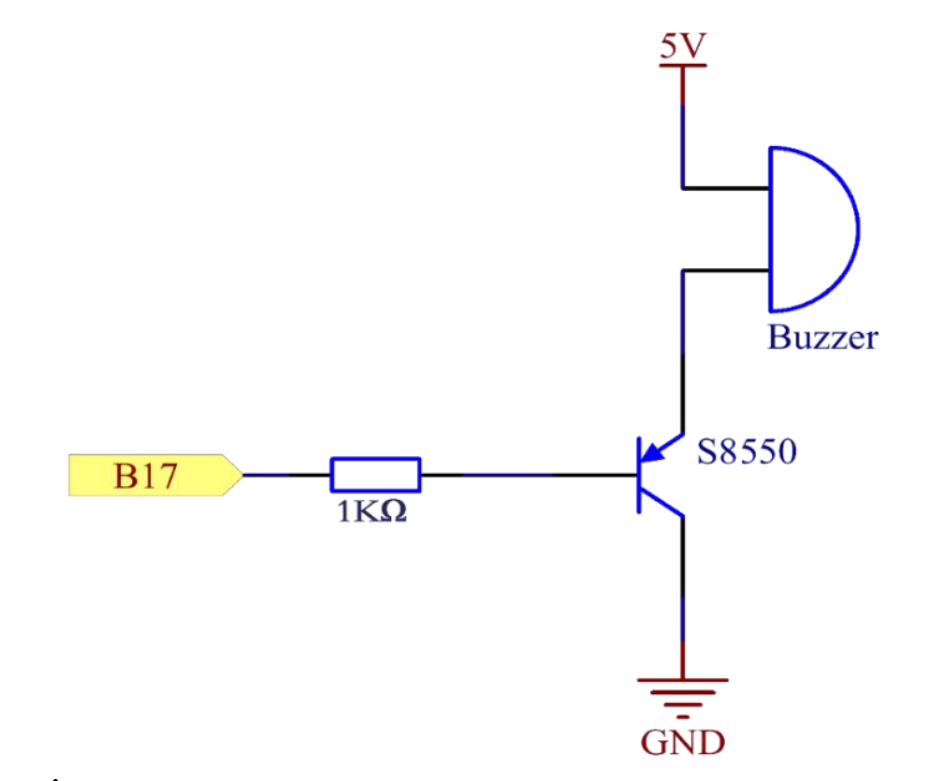
10/12/2022

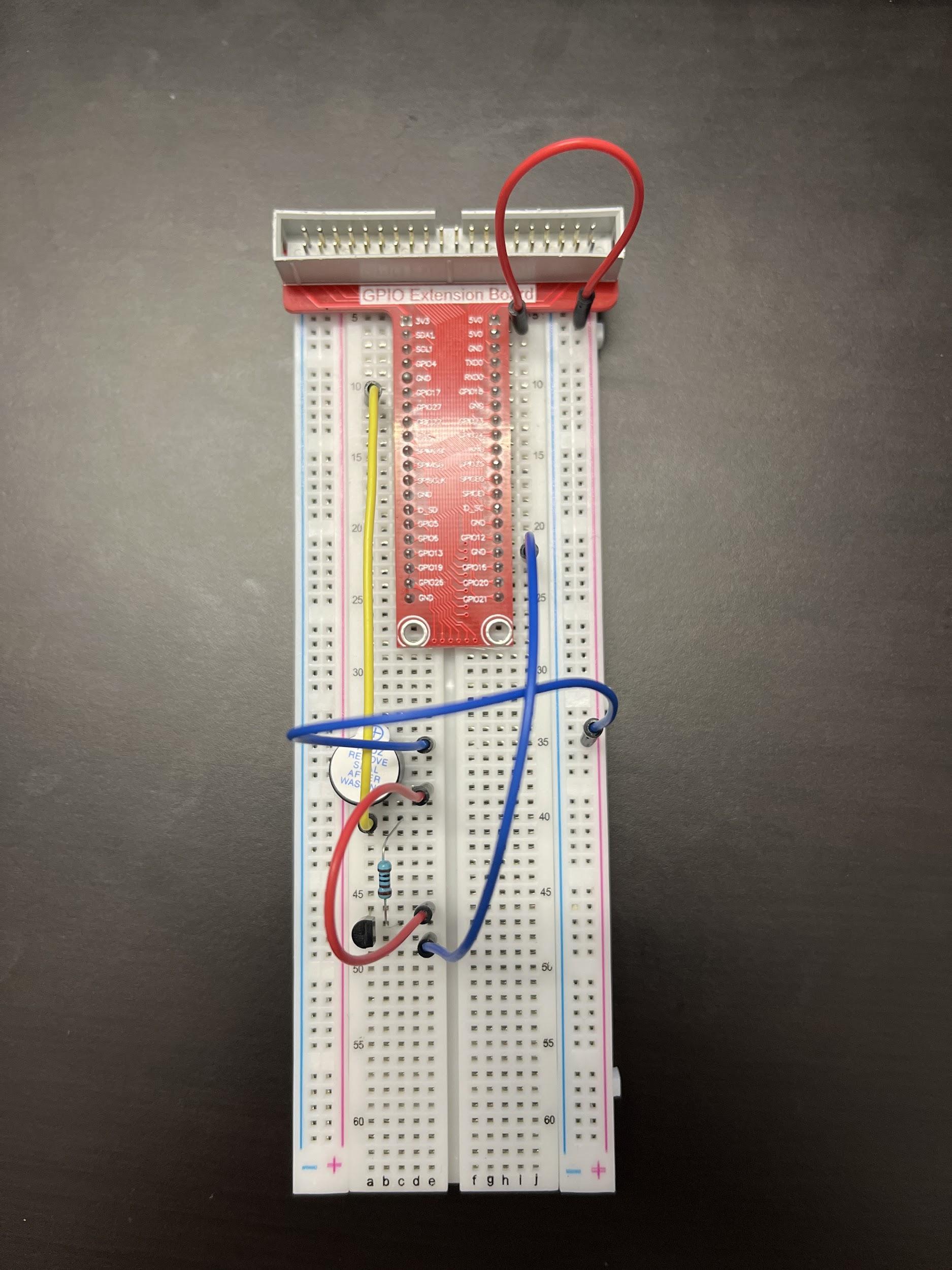
QUIZ#1

GitHub link: <https://github.com/MynameisKoi/CE450L/tree/main/Quiz%231>



Breadboard setup:





Source code: <https://github.com/MynameisKoi/CE450L/blob/main/Quiz%231/1.py>

#!/usr/bin/env python3

import RPi.GPIO as GPIO

import time

from sys import version\_info

if version\_info.major == 3:

raw\_input = input

# Set #17 as buzzer pin

BeepPin = 17

def print\_message():

print ("========================================")

print ("| Beep |")

print ("| ------------------------------ |")

print ("| Buzzer connect to GPIO17 |")

print ("| |")

print ("| Make Buzzer beep |")

print ("| |")

print ("| SunFounder|")

print ("======================================\n")

print ("Program is running...")

print ("Please press Ctrl+C to end the program...")

raw\_input ("Press Enter to begin\n")

def setup():

# Set the GPIO modes to BCM Numbering

GPIO.setmode(GPIO.BCM)

# Set LedPin's mode to output,

# and initial level to High(3.3v)

GPIO.setup(BeepPin, GPIO.OUT, *initial*=GPIO.HIGH)

def main():

print\_message()

while True:

# Buzzer on (Beep)

print ("Buzzer On")

GPIO.output(BeepPin, GPIO.LOW)

time.sleep(0.1)

# Buzzer off

print ("Buzzer Off")

GPIO.output(BeepPin, GPIO.HIGH)

time.sleep(0.2)

def destroy():

# Turn off buzzer

GPIO.output(BeepPin, GPIO.HIGH)

# Release resource

GPIO.cleanup()

# If run this script directly, do:

if \_\_name\_\_ == '\_\_main\_\_':

setup()

try:

main()

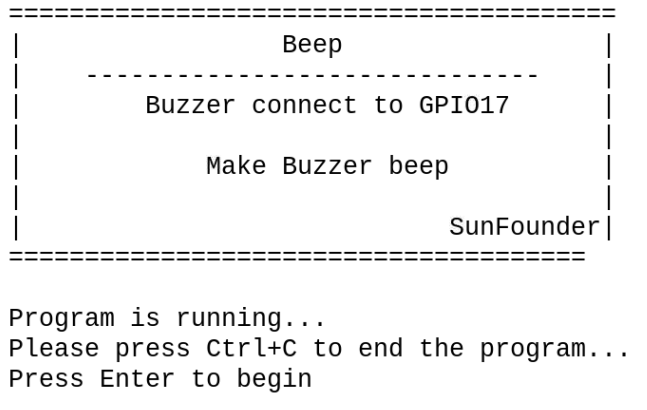
# When 'Ctrl+C' is pressed, the child program

# destroy() will be executed.

except KeyboardInterrupt:

destroy()

Run code and demonstration:



Video link:

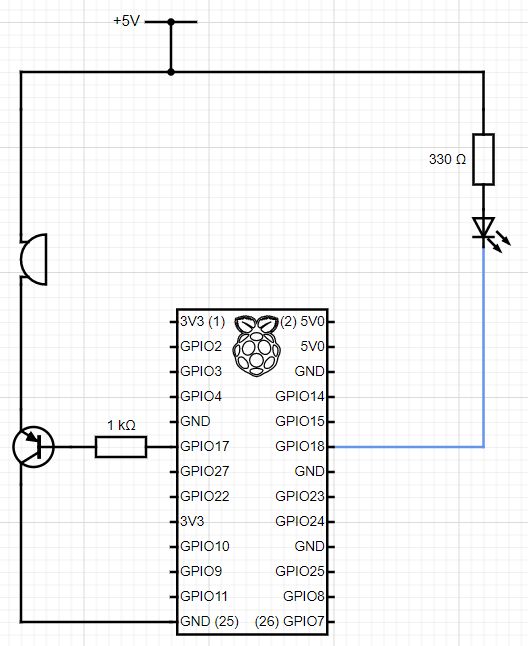
<https://github.com/MynameisKoi/CE450L/blob/main/Quiz%231/Demonstrations/1.mp4>

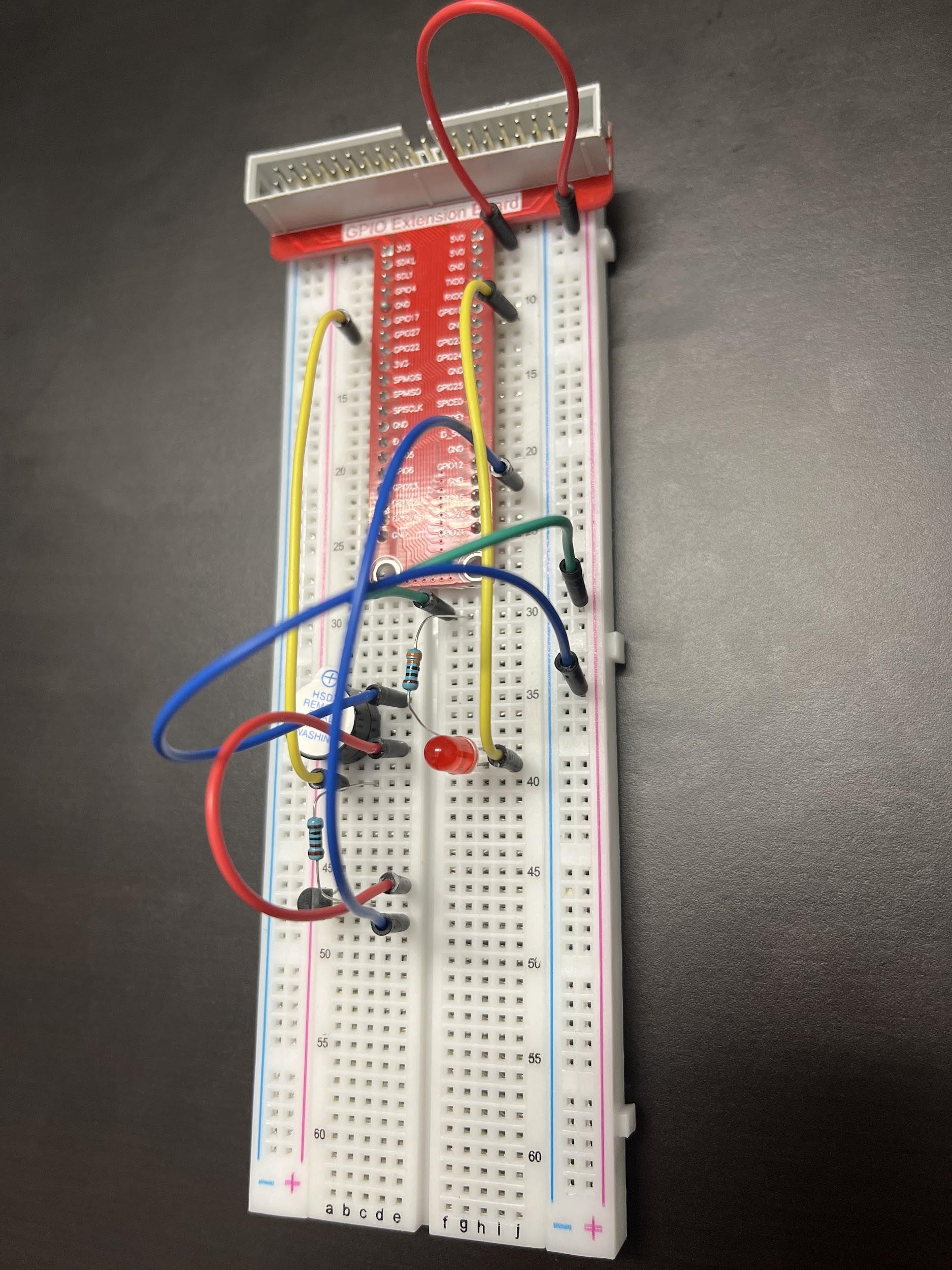


We know that the LED is usually set up with a 220Ω resistor and a power supply of 3.3V

Therefore, for the 5V power supply, the resistor should have: Ω

Breadboard setup:





Source code: <https://github.com/MynameisKoi/CE450L/blob/main/Quiz%231/2.py>

#!/usr/bin/env python3

import RPi.GPIO as GPIO

import time

from sys import version\_info

if version\_info.major == 3:

raw\_input = input

# Set #17 as buzzer pin and #18 as LED pin

BeepPin = 17

LedPin = 18

def print\_message():

print ("========================================")

print ("| Beep |")

print ("| ------------------------------ |")

print ("| Buzzer connect to GPIO17 |")

print ("| LED connect to GPIO18 |")

print ("| |")

print ("| Make Buzzer beep |")

print ("| and LED blink |")

print ("| SunFounder|")

print ("======================================\n")

print ("Program is running...")

print ("Please press Ctrl+C to end the program...")

raw\_input ("Press Enter to begin\n")

def setup():

# Set the GPIO modes to BCM Numbering

GPIO.setmode(GPIO.BCM)

# Set LedPin and BeepPin's mode to output,

# and initial level to High(5v)

GPIO.setup(BeepPin, GPIO.OUT, *initial*=GPIO.HIGH)

GPIO.setup(LedPin, GPIO.OUT, *initial*=GPIO.HIGH)

def main():

print\_message()

while True:

# Buzzer on (Beep)

print ("Buzzer & LED On")

GPIO.output(BeepPin, GPIO.LOW)

GPIO.output(LedPin, GPIO.LOW)

time.sleep(0.2)

# Buzzer off

print ("Buzzer & LED Off")

GPIO.output(BeepPin, GPIO.HIGH)

GPIO.output(LedPin, GPIO.HIGH)

time.sleep(0.2)

def destroy():

# Turn off buzzer and LED

GPIO.output(BeepPin, GPIO.HIGH)

GPIO.output(LedPin, GPIO.HIGH)

# Release resource

GPIO.cleanup()

# If run this script directly, do:

if \_\_name\_\_ == '\_\_main\_\_':

setup()

try:

main()

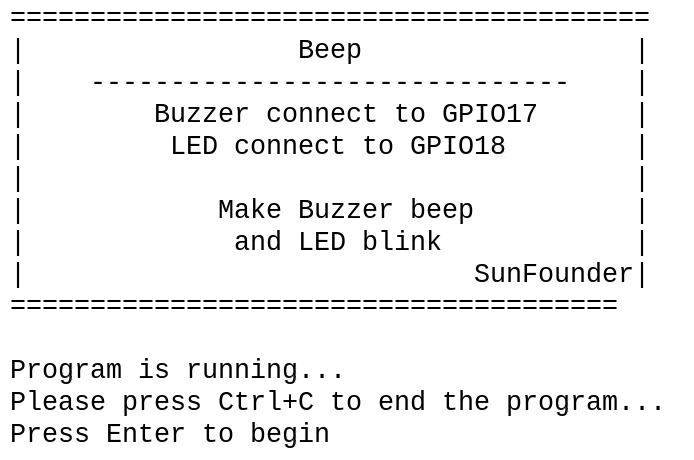
# When 'Ctrl+C' is pressed, the child program

# destroy() will be executed.

except KeyboardInterrupt:

destroy()

Run code & demonstration:



Video link:

<https://github.com/MynameisKoi/CE450L/blob/main/Quiz%231/Demonstrations/2.mp4>