Task 5.1 using buttons:

import tkinter as tk

import RPi.GPIO as GPIO

# Setup GPIO

GPIO.setmode(GPIO.BCM)

RED\_LED = 17

GREEN\_LED = 27

BLUE\_LED = 22

GPIO.setup(RED\_LED, GPIO.OUT)

GPIO.setup(GREEN\_LED, GPIO.OUT)

GPIO.setup(BLUE\_LED, GPIO.OUT)

def turn\_off\_all\_leds():

GPIO.output(RED\_LED, GPIO.LOW)

GPIO.output(GREEN\_LED, GPIO.LOW)

GPIO.output(BLUE\_LED, GPIO.LOW)

def turn\_on\_red():

turn\_off\_all\_leds()

GPIO.output(RED\_LED, GPIO.HIGH)

def turn\_on\_green():

turn\_off\_all\_leds()

GPIO.output(GREEN\_LED, GPIO.HIGH)

def turn\_on\_blue():

turn\_off\_all\_leds()

GPIO.output(BLUE\_LED, GPIO.HIGH)

def on\_closing():

turn\_off\_all\_leds()

GPIO.cleanup()

root.destroy()

# Setup GUI

root = tk.Tk()

root.title("LED Controller")

radio\_var = tk.IntVar()

radio\_red = tk.Radiobutton(root, text="Red LED", variable=radio\_var, value=1, command=turn\_on\_red)

radio\_red.pack(anchor=tk.W)

radio\_green = tk.Radiobutton(root, text="Green LED", variable=radio\_var, value=2, command=turn\_on\_green)

radio\_green.pack(anchor=tk.W)

radio\_blue = tk.Radiobutton(root, text="Blue LED", variable=radio\_var, value=3, command=turn\_on\_blue)

radio\_blue.pack(anchor=tk.W)

exit\_button = tk.Button(root, text="Exit", command=on\_closing)

exit\_button.pack(anchor=tk.W)

root.protocol("WM\_DELETE\_WINDOW", on\_closing)

root