Name: Yash Bharat Tagunde

Class: TY-AIEC Batch: A

Roll. No.: 2223982

**Title: “Hello World” to Raspberry Pi**

**Python Code to display ‘Hello World’ on LCD:**

import smbus

import time

# Define the I2C address of the LCD

LCD\_ADDRESS = 0x3E

RGB\_ADDRESS = 0x62

# Initialize the I2C bus

bus = smbus.SMBus(1)

def send\_command(cmd):

"""Send a command to the LCD."""

bus.write\_byte\_data(LCD\_ADDRESS, 0x00, cmd)

def send\_data(data):

"""Send data to the LCD."""

bus.write\_byte\_data(LCD\_ADDRESS, 0x40, data)

def set\_rgb(r, g, b):

"""Set the backlight color of the LCD."""

bus.write\_byte\_data(RGB\_ADDRESS, 0x00, 0x00)

bus.write\_byte\_data(RGB\_ADDRESS, 0x01, 0x00)

bus.write\_byte\_data(RGB\_ADDRESS, 0x08, 0xAA)

bus.write\_byte\_data(RGB\_ADDRESS, 0x04, r)

bus.write\_byte\_data(RGB\_ADDRESS, 0x03, g)

bus.write\_byte\_data(RGB\_ADDRESS, 0x02, b)

def initialize\_lcd():

"""Initialize the LCD."""

send\_command(0x01) # Clear display

time.sleep(0.05)

send\_command(0x38) # Function set: 8-bit, 2 lines

send\_command(0x0C) # Display ON, Cursor OFF, Blink OFF

send\_command(0x06) # Entry mode set: increment, no shift

time.sleep(0.05)

def write\_message(line1, line2):

"""Write a message to the LCD."""

send\_command(0x80) # Move cursor to the beginning of the first line

for char in line1:

send\_data(ord(char)) # Send each character as data to the LCD

send\_command(0xC0) # Move cursor to the beginning of the second line

for char in line2:

send\_data(ord(char)) # Send each character as data to the LCD

if \_\_name\_\_ == "\_\_main\_\_":

try:

initialize\_lcd()

set\_rgb(0, 255, 255) # Set backlight to greenish color

write\_message("Hello", "World") # Display message

while True:

time.sleep(1)

except KeyboardInterrupt:

send\_command(0x01) # Clear display

set\_rgb(0, 0, 0) # Turn off backlight

print("Exiting...")