LED PROGRAM:

import sys

sys.path.append('/home/pi/Adafruit-Raspberry-Pi-Python-Codelegacy/Adafruit\_CircuitPython\_MCP230xx-main') # LIBRARY

import time

import board

import busio

from digitalio import Direction, Pull

from adafruit\_mcp230xx.mcp23017 import MCP23017

# Initialize the I2C bus:

i2c = busio.I2C(board.SCL, board.SDA)

# Initialize the MCP23017 chip on the bonnet

mcp = MCP23017(i2c)

# Optionally change the address of the device if you set any of the A0, A1, A2

# pins. Specify the new address with a keyword parameter:

mcp = MCP23017(i2c, address=0x20) # MCP23017

# Make a list of all the port A pins (Refer User Manual page no 14)

PortA = [ ]

for pin in range(0, 8):

PortA.append(mcp.get\_pin(pin))

# Make a list of all the port B pins (Refer User Manual page no 14)

PortB = [ ]

for pin in range(8, 16):

PortB.append(mcp.get\_pin(pin))

for pin in range(0,8): # CLEARING ALL THE PORT A PINS

PortA[pin].value=False

for pin in range(0,8): # CLEARING ALL PORT B PINS

PortB[pin].value=False

PortA[0].direction = Direction.OUTPUT

PortA[1].direction = Direction.OUTPUT

PortA[2].direction = Direction.OUTPUT

PortA[3].direction = Direction.OUTPUT

PortA[4].direction = Direction.OUTPUT

PortA[5].direction = Direction.OUTPUT

PortA[6].direction = Direction.OUTPUT

PortA[7].direction = Direction.OUTPUT

PortB[0].direction = Direction.OUTPUT

try:

while True:

print("RED LED ON")

PortA[0].value = True

PortA[3].value = True

PortA[6].value = True

time.sleep(2)

print("GREEN LED ON")

PortA[1].value = True

PortA[4].value = True

PortA[7].value = True

time.sleep(2)

print("BLUE LED ON")

PortA[2].value = True

PortA[5].value = True

PortB[0].value = True

time.sleep(2)

print("RED LED OFF")

PortA[0].value = False

PortA[3].value = False

PortA[6].value = False

time.sleep(2)

print("GREEN LED OFF")

PortA[1].value = False

PortA[4].value = False

PortA[7].value = False

time.sleep(2)

print("BLUE LED OFF")

PortA[2].value = False

PortA[5].value = False

PortB[0].value = False

time.sleep(2)

except KeyboardInterrupt: # CLEAR ALL PORT PINS Press CTRL+C

for pin in range(0,8):

PortA[pin].value=False

for pin in range(0,8):

PortB[pin].value=False