import time

import Adafruit\_DHT

import spidev

# Set up SPI connection for air quality sensor

spi = spidev.SpiDev()

spi.open(0, 0)

spi.max\_speed\_hz = 1200000

def read\_air\_quality():

# Read data from air quality sensor

spi.xfer([0x01])

bytes = spi.readbytes(2)

value = (bytes[0] << 8) | bytes[1]

return value

def calculate\_aqi(value):

# Calculate Air Quality Index (AQI) based on sensor value

if value <= 50:

return "Good"

elif value <= 100:

return "Moderate"

elif value <= 150:

return "Unhealthy for sensitive groups"

elif value <= 200:

return "Unhealthy"

elif value <= 300:

return "Very unhealthy"

else:

return "Hazardous"

try:

while True:

# Read air quality data

value = read\_air\_quality()

aqi = calculate\_aqi(value)

# Print air quality data

print(f"Air Quality Index (AQI): {aqi} ({value})")

# Wait for 1 minute before taking the next reading

time.sleep(60)

except KeyboardInterrupt:

spi.close()