***ADC WITH LDR***

import spidev

import time

import os

import RPi.GPIO as GPIO

GPIO.setmode(GPIO.BCM)

LIGHT\_PIN=12

light\_threshold=100

GPIO.setup(LIGHT\_PIN, GPIO.OUT)

GPIO.output(LIGHT\_PIN, False)

# Open SPI bus

spi=spidev.SpiDev()

spi.open(0,0)

def ConvertVolts(light\_level):

volts=(light\_level\*3.3)/float(1023)

return volts

def ReadChannel(channel):

spi.max\_speed\_hz=1350000

adc=spi.xfer2([1,(8+channel)<<4,0])

print("raw data",adc)

data=(((adc[1]&3) << 8)+adc[2])

print("data",data)

return data

while(1):

try:

ldr\_channel=0

light\_level=ReadChannel(ldr\_channel)

print("light\_level",light\_level)

volts=ConvertVolts(light\_level)

print("volts:",volts)

if light\_level<light\_threshold:

print("lights on")

GPIO.output(LIGHT\_PIN, True)

time.sleep(1)

else:

GPIO.output(LIGHT\_PIN, False)

print("lights off")

time.sleep(1)

except KeyboardInterrupt:

GPIO.cleanup()

exit()