#RASPBERRY PI BASED PROGRAM TO MEASURE THE DISTANCE TO AN OBJECT USING IR SENSOR

#we need to import the libraries

import RPi.GPIO as GPIO #for raspberry pi gpio support

import time #time for sleep function

import lcd #to display on 16x2 lcd

#connections to lcd gpio pins

D4=5

D5=6

D6=12

D7=13

RS=16

EN=17

#creating mylcd object

mylcd=lcd.lcd()

#initializing lcd pins

mylcd.begin(D4,D5,D6,D7,RS,EN)

#setup gpio modes

GPIO.setwarnings(False)

GPIO.setmode(GPIO.BCM)

GPIO.setup(21,GPIO.IN) #GPIO 2 -> Red LED as output

GPIO.setup(20, GPIO.OUT) #LED/buzzer output pin

def detectObject():

if(GPIO.input(21)==True): #object is far away

mylcd.clear()

mylcd.Print("object detected")

GPIO.output(20, 1) #Turn OFF LED/buzzer

time.sleep(0.5)

elif(GPIO.input(21)==False): #object is near

mylcd.clear()

mylcd.Print("no object")

GPIO.output(20, 0) #Turn OFF LED/buzzer

time.sleep(0.5)

#set cursor function

def lcdCursor():

mylcd.blinkCursorOn()

time.sleep(2)

mylcd.blinkCursorOff()

mylcd.clear()

#clear GPIOs

def destroy():

GPIO.cleanup()

#main block

if \_\_name\_\_ == '\_\_main\_\_':

while True:

try:

detectObject()

lcdCursor()

# If keyboard Interrupt (CTRL-C) is pressed

except KeyboardInterrupt:

destroy()