**Internet of Things**

**Lab Practical No. 1**

**Code :**

import RPi.GPIO as GPIO

import time

GPIO.setmode(GPIO.BOARD)

servo\_pin=18

trig\_pin=23

echo\_pin=24

GPIO.setup(servo\_pin, GPIO.OUT)

GPIO.setup(trig\_pin, GPIO.OUT)

GPIO.setup(echo\_pin, GPIO.IN)

pwm=GPIO.PWM(servo\_pin, 50)

pwm.start(2.5)

def measure\_distance():

GPIO.output(trig\_pin, True)

time.sleep(0.00001)

GPIO.output(trig\_pin, False)

pulse\_start, pulse\_end =0, 0

while not GPIO.input(echo\_pin):

pulse\_start = time.time()

while GPIO.input(echo\_pin):

pulse\_end = time.time()

Pulse\_time=pulse\_end-pulse\_start

distance=(Pulse\_time\*34300)/2

distance=int(distance)

return(distance)

try:

while True:

distance=measure\_distance()

if(distance<=40):

pwm.ChangeDutyCycle(12.5)

else:

pwm.ChangeDutyCycle(2.5)

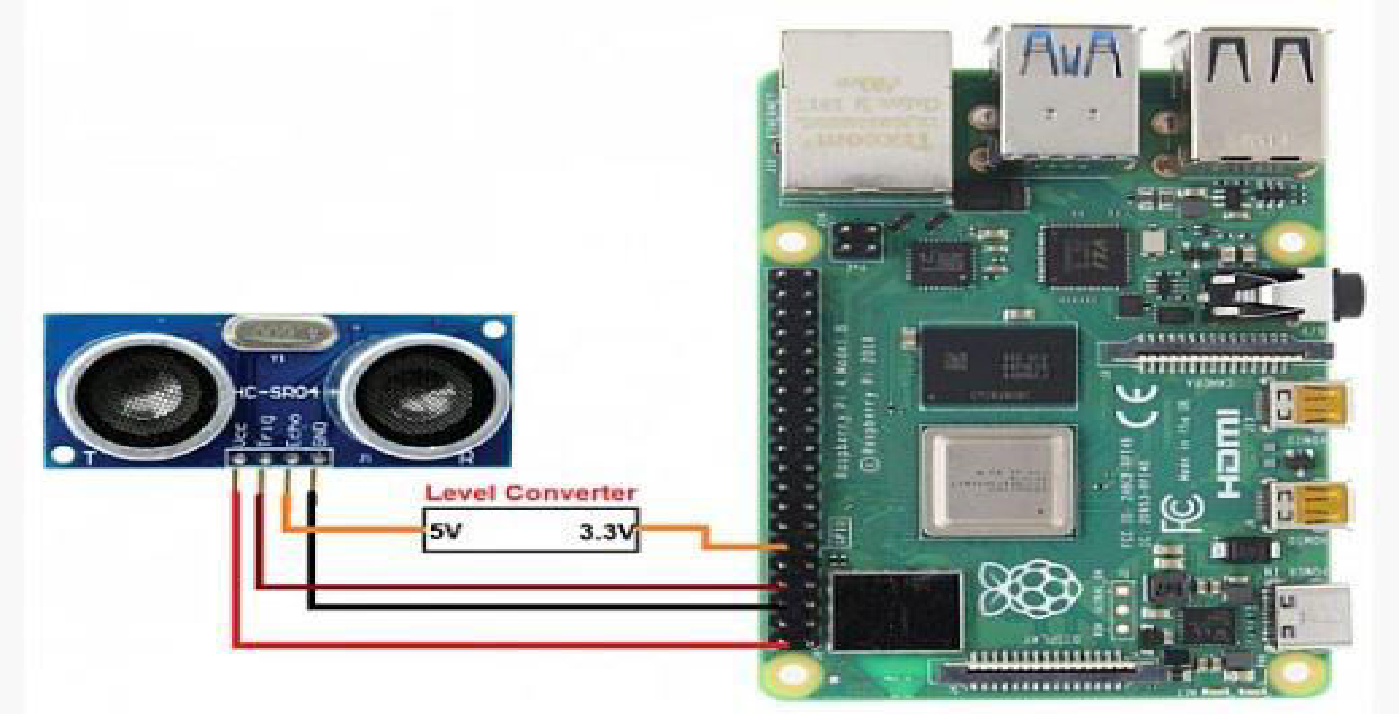
time.sleep(0.1)

except KeyboardInterrupt:

pwm.stop()

GPIO.cleanup()

**OUTPUT/CIRCUIT DIAGRAM:**

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