**Universidad Rafael Landívar**

**Facultad de Ingeniería**

**Ingeniería en Informática y sistemas**

**Arquitectura del Computador II**

**Sección 1**

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**Guatemala, 21 de abril de 2021**

**CODIGO LAMBDA AMAZON (lab9)**

**import json**

**def lambda\_handler(event, context):**

**# TODO implement**

**if event['PulsoPi'] == '1':**

**return "00111011"**

**else:**

**return "1111110"**

**CODIGO LAMBDA AMAZON (lab8)**

import json

def lambda\_handler(event, context):

# TODO implement

if event['PulsoPi'] == '0':

return "1111110"

elif event['PulsoPi'] == '1':

return "0110000"

elif event['PulsoPi'] == '2':

return "1101101"

elif event['PulsoPi'] == '3':

return "1111001"

elif event['PulsoPi'] == '4':

return "0110011"

elif event['PulsoPi'] == '5':

return "1011011"

elif event['PulsoPi'] == '6':

return "1011111"

elif event['PulsoPi'] == '7':

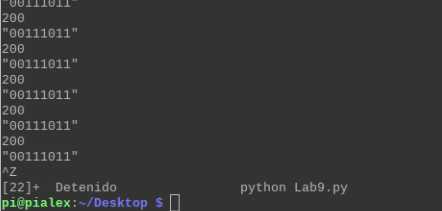
return "1110000"

elif event['PulsoPi'] == '8':

return "1111111"

else:

return "1111011”



A picture containing diagram

Description automatically generated

**CODIGO RASP (LAB9)**

import requests

import RPi.GPIO as GPIO

import time

from datetime import datetime

GPIO.setwarnings(False)

GPIO.setmode(GPIO.BCM)

GPIO.setup(9,GPIO.OUT) #0

GPIO.setup(11,GPIO.OUT) #1

GPIO.setup(5,GPIO.OUT) #2

GPIO.setup(6,GPIO.OUT) #3

GPIO.setup(13,GPIO.OUT) #4

GPIO.setup(19,GPIO.OUT) #5

GPIO.setup(2,GPIO.OUT) #5

GPIO.setup(26,GPIO.OUT) #6

GPIO.setup(20,GPIO.IN) #dip

time1 = 0

while True:

if GPIO.input(20):

time1 = 1

URL = ‘https://w95davn4k4.execute-api.us-east-2.amazonaws.com/Fase1/’

URL = URL + “?PulsoPi=” + str(time1)

response = requests.post(URL)

print(response.status\_code)

bit1 = response.text[1]

bit2 = response.text[2]

bit3 = response.text[3]

bit4 = response.text[4]

bit5 = response.text[5]

bit6 = response.text[6]

bit7 = response.text[7]

bit8 = response.text[8]

if bit1 == “1” or bit1 == “0”:

if bit1 == “1”:

GPIO.output(9,True)

else:

GPIO.output(9, False)

if bit2 == “1” or bit2 == “0”:

if bit2 == “1”:

GPIO.output(11,True)

else:

GPIO.output(11, False)

if bit3 == “1” or bit3 == “0”:

if bit3 == “1”:

GPIO.output(5,True)

else:

GPIO.output(5, False)

if bit4 == “1” or bit4 == “0”:

if bit4 == “1”:

GPIO.output(6,True)

else:

GPIO.output(6, False)

if bit5 == “1” or bit5 == “0”:

if bit5== “1”:

GPIO.output(13,True)

else:

GPIO.output(13, False)

if bit6 == “1” or bit6 == “0”:

if bit6 == “1”:

GPIO.output(19,True)

else:

GPIO.output(19, False)

if bit7 == “1” or bit7 == “0”:

if bit7 == “1”:

GPIO.output(26,True)

else:

GPIO.output(26, False)

if bit8 == “1” or bit8 == “0”:

if bit8 == “1”:

GPIO.output(2,True)

else:

GPIO.output(2,False)

print(response.text)

else:

time1 = 0

URL = ‘https://w95davn4k4.execute-api.us-east-2.amazonaws.com/Fase1/’

URL = URL + “?PulsoPi=” + str(time1)

response = requests.post(URL)

print(response.status\_code)

bit1 = response.text[1]

bit2 = response.text[2]

bit3 = response.text[3]

bit4 = response.text[4]

bit5 = response.text[5]

bit6 = response.text[6]

bit7 = response.text[7]

if bit1 == “1” or bit1 == “0”:

if bit1 == “1”:

GPIO.output(9,True)

else:

GPIO.output(9, False)

if bit2 == “1” or bit2 == “0”:

if bit2 == “1”:

GPIO.output(11,True)

else:

GPIO.output(11, False)

if bit3 == “1” or bit3 == “0”:

if bit3 == “1”:

GPIO.output(5,True)

else:

GPIO.output(5, False)

if bit4 == “1” or bit4 == “0”:

if bit4 == “1”:

GPIO.output(6,True)

else:

GPIO.output(6, False)

if bit5 == “1” or bit5 == “0”:

if bit5 == “1”:

GPIO.output(13,True)

else:

GPIO.output(13, False)

if bit6 == “1” or bit6 == “0”:

if bit6 == “1”:

GPIO.output(19,True)

else:

GPIO.output(19, False)

if bit7 == “1” or bit7 == “0”:

if bit7 == “1”:

GPIO.output(26,True)

GPIO.output(2,True)

else:

GPIO.output(26, False)

GPIO.output(2,False)

GPIO.cleanup()

**CODIGO RASP (LAB8)**

import requests

import RPi.GPIO as GPIO

import time

from datetime import datetime

GPIO.setwarnings(False)

GPIO.setmode(GPIO.BCM)

GPIO.setup(9,GPIO.OUT) #0

GPIO.setup(11,GPIO.OUT) #1

GPIO.setup(5,GPIO.OUT) #2

GPIO.setup(6,GPIO.OUT) #3

GPIO.setup(13,GPIO.OUT) #4

GPIO.setup(19,GPIO.OUT) #5

GPIO.setup(2,GPIO.OUT) #5

GPIO.setup(26,GPIO.OUT) #6

GPIO.setup(20,GPIO.IN) #dip

time1 = 0

tiempoI = datetime.now()

tiempoF = datetime.now()

while True:

tiempoI = datetime.now()

while GPIO.input(20):

tiempoF = datetime.now()

if (tiempoF - tiempoI).seconds < 1:

time1 = 0

URL = 'https://w95davn4k4.execute-api.us-east-2.amazonaws.com/Fase1/'

URL = URL + "?PulsoPi=" + str(time1)

response = requests.post(URL)

print(response.status\_code)

bit1 = response.text[1]

bit2 = response.text[2]

bit3 = response.text[3]

bit4 = response.text[4]

bit5 = response.text[5]

bit6 = response.text[6]

bit7 = response.text[7]

if bit1 == "1" or bit1 == "0":

if bit1 == "1":

GPIO.output(9,True)

else:

GPIO.output(9, False)

if bit2 == "1" or bit2 == "0":

if bit2 == "1":

GPIO.output(11,True)

else:

GPIO.output(11, False)

if bit3 == "1" or bit3 == "0":

if bit3 == "1":

GPIO.output(5,True)

else:

GPIO.output(5, False)

if bit4 == "1" or bit4 == "0":

if bit4 == "1":

GPIO.output(6,True)

else:

GPIO.output(6, False)

if bit5 == "1" or bit5 == "0":

if bit5 == "1":

GPIO.output(13,True)

else:

GPIO.output(13, False)

if bit6 == "1" or bit6 == "0":

if bit6 == "1":

GPIO.output(19,True)

else:

GPIO.output(19, False)

if bit7 == "1" or bit7 == "0":

if bit7 == "1":

GPIO.output(26,True)

GPIO.output(2,True)

else:

GPIO.output(26, False)

GPIO.output(2,False)

print("0")

elif (tiempoF - tiempoI).seconds < 2:

time1 = 1

URL = 'https://w95davn4k4.execute-api.us-east-2.amazonaws.com/Fase1/'

URL = URL + "?PulsoPi=" + str(time1)

response = requests.post(URL)

print(response.status\_code)

bit1 = response.text[1]

bit2 = response.text[2]

bit3 = response.text[3]

bit4 = response.text[4]

bit5 = response.text[5]

bit6 = response.text[6]

bit7 = response.text[7]

if bit1 == "1" or bit1 == "0":

if bit1 == "1":

GPIO.output(9,True)

else:

GPIO.output(9, False)

if bit2 == "1" or bit2 == "0":

if bit2 == "1":

GPIO.output(11,True)

else:

GPIO.output(11, False)

if bit3 == "1" or bit3 == "0":

if bit3 == "1":

GPIO.output(5,True)

else:

GPIO.output(5, False)

if bit4 == "1" or bit4 == "0":

if bit4 == "1":

GPIO.output(6,True)

else:

GPIO.output(6, False)

if bit5 == "1" or bit5 == "0":

if bit5 == "1":

GPIO.output(13,True)

else:

GPIO.output(13, False)

if bit6 == "1" or bit6 == "0":

if bit6 == "1":

GPIO.output(19,True)

else:

GPIO.output(19, False)

if bit7 == "1" or bit7 == "0":

if bit7 == "1":

GPIO.output(26,True)

GPIO.output(2,True)

else:

GPIO.output(26, False)

GPIO.output(2,False)

print("1")

elif (tiempoF - tiempoI).seconds < 3:

time1 = 2

URL = 'https://w95davn4k4.execute-api.us-east-2.amazonaws.com/Fase1/'

URL = URL + "?PulsoPi=" + str(time1)

response = requests.post(URL)

print(response.status\_code)

bit1 = response.text[1]

bit2 = response.text[2]

bit3 = response.text[3]

bit4 = response.text[4]

bit5 = response.text[5]

bit6 = response.text[6]

bit7 = response.text[7]

if bit1 == "1" or bit1 == "0":

if bit1 == "1":

GPIO.output(9,True)

else:

GPIO.output(9, False)

if bit2 == "1" or bit2 == "0":

if bit2 == "1":

GPIO.output(11,True)

else:

GPIO.output(11, False)

if bit3 == "1" or bit3 == "0":

if bit3 == "1":

GPIO.output(5,True)

else:

GPIO.output(5, False)

if bit4 == "1" or bit4 == "0":

if bit4 == "1":

GPIO.output(6,True)

else:

GPIO.output(6, False)

if bit5 == "1" or bit5 == "0":

if bit5 == "1":

GPIO.output(13,True)

else:

GPIO.output(13, False)

if bit6 == "1" or bit6 == "0":

if bit6 == "1":

GPIO.output(19,True)

else:

GPIO.output(19, False)

if bit7 == "1" or bit7 == "0":

if bit7 == "1":

GPIO.output(26,True)

GPIO.output(2,True)

else:

GPIO.output(26, False)

GPIO.output(2,False)

print("2")

elif (tiempoF - tiempoI).seconds < 4:

time1 = 3

URL = 'https://w95davn4k4.execute-api.us-east-2.amazonaws.com/Fase1/'

URL = URL + "?PulsoPi=" + str(time1)

response = requests.post(URL)

print(response.status\_code)

bit1 = response.text[1]

bit2 = response.text[2]

bit3 = response.text[3]

bit4 = response.text[4]

bit5 = response.text[5]

bit6 = response.text[6]

bit7 = response.text[7]

if bit1 == "1" or bit1 == "0":

if bit1 == "1":

GPIO.output(9,True)

else:

GPIO.output(9, False)

if bit2 == "1" or bit2 == "0":

if bit2 == "1":

GPIO.output(11,True)

else:

GPIO.output(11, False)

if bit3 == "1" or bit3 == "0":

if bit3 == "1":

GPIO.output(5,True)

else:

GPIO.output(5, False)

if bit4 == "1" or bit4 == "0":

if bit4 == "1":

GPIO.output(6,True)

else:

GPIO.output(6, False)

if bit5 == "1" or bit5 == "0":

if bit5 == "1":

GPIO.output(13,True)

else:

GPIO.output(13, False)

if bit6 == "1" or bit6 == "0":

if bit6 == "1":

GPIO.output(19,True)

else:

GPIO.output(19, False)

if bit7 == "1" or bit7 == "0":

if bit7 == "1":

GPIO.output(26,True)

GPIO.output(2,True)

else:

GPIO.output(26, False)

GPIO.output(2,False)

print("3")

elif (tiempoF - tiempoI).seconds < 5:

time1 = 4

URL = 'https://w95davn4k4.execute-api.us-east-2.amazonaws.com/Fase1/'

URL = URL + "?PulsoPi=" + str(time1)

response = requests.post(URL)

print(response.status\_code)

bit1 = response.text[1]

bit2 = response.text[2]

bit3 = response.text[3]

bit4 = response.text[4]

bit5 = response.text[5]

bit6 = response.text[6]

bit7 = response.text[7]

if bit1 == "1" or bit1 == "0":

if bit1 == "1":

GPIO.output(9,True)

else:

GPIO.output(9, False)

if bit2 == "1" or bit2 == "0":

if bit2 == "1":

GPIO.output(11,True)

else:

GPIO.output(11, False)

if bit3 == "1" or bit3 == "0":

if bit3 == "1":

GPIO.output(5,True)

else:

GPIO.output(5, False)

if bit4 == "1" or bit4 == "0":

if bit4 == "1":

GPIO.output(6,True)

else:

GPIO.output(6, False)

if bit5 == "1" or bit5 == "0":

if bit5 == "1":

GPIO.output(13,True)

else:

GPIO.output(13, False)

if bit6 == "1" or bit6 == "0":

if bit6 == "1":

GPIO.output(19,True)

else:

GPIO.output(19, False)

if bit7 == "1" or bit7 == "0":

if bit7 == "1":

GPIO.output(26,True)

GPIO.output(2,True)

else:

GPIO.output(26, False)

GPIO.output(2,False)

print("4")

elif (tiempoF - tiempoI).seconds < 6:

time1 = 5

URL = 'https://w95davn4k4.execute-api.us-east-2.amazonaws.com/Fase1/'

URL = URL + "?PulsoPi=" + str(time1)

response = requests.post(URL)

print(response.status\_code)

bit1 = response.text[1]

bit2 = response.text[2]

bit3 = response.text[3]

bit4 = response.text[4]

bit5 = response.text[5]

bit6 = response.text[6]

bit7 = response.text[7]

if bit1 == "1" or bit1 == "0":

if bit1 == "1":

GPIO.output(9,True)

else:

GPIO.output(9, False)

if bit2 == "1" or bit2 == "0":

if bit2 == "1":

GPIO.output(11,True)

else:

GPIO.output(11, False)

if bit3 == "1" or bit3 == "0":

if bit3 == "1":

GPIO.output(5,True)

else:

GPIO.output(5, False)

if bit4 == "1" or bit4 == "0":

if bit4 == "1":

GPIO.output(6,True)

else:

GPIO.output(6, False)

if bit5 == "1" or bit5 == "0":

if bit5 == "1":

GPIO.output(13,True)

else:

GPIO.output(13, False)

if bit6 == "1" or bit6 == "0":

if bit6 == "1":

GPIO.output(19,True)

else:

GPIO.output(19, False)

if bit7 == "1" or bit7 == "0":

if bit7 == "1":

GPIO.output(26,True)

GPIO.output(2,True)

else:

GPIO.output(26, False)

GPIO.output(2,False)

print("5")

elif (tiempoF - tiempoI).seconds < 7:

time1 = 6

URL = 'https://w95davn4k4.execute-api.us-east-2.amazonaws.com/Fase1/'

URL = URL + "?PulsoPi=" + str(time1)

response = requests.post(URL)

print(response.status\_code)

bit1 = response.text[1]

bit2 = response.text[2]

bit3 = response.text[3]

bit4 = response.text[4]

bit5 = response.text[5]

bit6 = response.text[6]

bit7 = response.text[7]

if bit1 == "1" or bit1 == "0":

if bit1 == "1":

GPIO.output(9,True)

else:

GPIO.output(9, False)

if bit2 == "1" or bit2 == "0":

if bit2 == "1":

GPIO.output(11,True)

else:

GPIO.output(11, False)

if bit3 == "1" or bit3 == "0":

if bit3 == "1":

GPIO.output(5,True)

else:

GPIO.output(5, False)

if bit4 == "1" or bit4 == "0":

if bit4 == "1":

GPIO.output(6,True)

else:

GPIO.output(6, False)

if bit5 == "1" or bit5 == "0":

if bit5 == "1":

GPIO.output(13,True)

else:

GPIO.output(13, False)

if bit6 == "1" or bit6 == "0":

if bit6 == "1":

GPIO.output(19,True)

else:

GPIO.output(19, False)

if bit7 == "1" or bit7 == "0":

if bit7 == "1":

GPIO.output(26,True)

GPIO.output(2,True)

else:

GPIO.output(26, False)

GPIO.output(2,False)

print("6")

elif (tiempoF - tiempoI).seconds < 8:

time1 = 7

URL = 'https://w95davn4k4.execute-api.us-east-2.amazonaws.com/Fase1/'

URL = URL + "?PulsoPi=" + str(time1)

response = requests.post(URL)

print(response.status\_code)

bit1 = response.text[1]

bit2 = response.text[2]

bit3 = response.text[3]

bit4 = response.text[4]

bit5 = response.text[5]

bit6 = response.text[6]

bit7 = response.text[7]

if bit1 == "1" or bit1 == "0":

if bit1 == "1":

GPIO.output(9,True)

else:

GPIO.output(9, False)

if bit2 == "1" or bit2 == "0":

if bit2 == "1":

GPIO.output(11,True)

else:

GPIO.output(11, False)

if bit3 == "1" or bit3 == "0":

if bit3 == "1":

GPIO.output(5,True)

else:

GPIO.output(5, False)

if bit4 == "1" or bit4 == "0":

if bit4 == "1":

GPIO.output(6,True)

else:

GPIO.output(6, False)

if bit5 == "1" or bit5 == "0":

if bit5 == "1":

GPIO.output(13,True)

else:

GPIO.output(13, False)

if bit6 == "1" or bit6 == "0":

if bit6 == "1":

GPIO.output(19,True)

else:

GPIO.output(19, False)

if bit7 == "1" or bit7 == "0":

if bit7 == "1":

GPIO.output(26,True)

GPIO.output(2,True)

else:

GPIO.output(26, False)

GPIO.output(2,False)

print("7")

elif (tiempoF - tiempoI).seconds < 9:

time1 = 8

URL = 'https://w95davn4k4.execute-api.us-east-2.amazonaws.com/Fase1/'

URL = URL + "?PulsoPi=" + str(time1)

response = requests.post(URL)

print(response.status\_code)

bit1 = response.text[1]

bit2 = response.text[2]

bit3 = response.text[3]

bit4 = response.text[4]

bit5 = response.text[5]

bit6 = response.text[6]

bit7 = response.text[7]

if bit1 == "1" or bit1 == "0":

if bit1 == "1":

GPIO.output(9,True)

else:

GPIO.output(9, False)

if bit2 == "1" or bit2 == "0":

if bit2 == "1":

GPIO.output(11,True)

else:

GPIO.output(11, False)

if bit3 == "1" or bit3 == "0":

if bit3 == "1":

GPIO.output(5,True)

else:

GPIO.output(5, False)

if bit4 == "1" or bit4 == "0":

if bit4 == "1":

GPIO.output(6,True)

else:

GPIO.output(6, False)

if bit5 == "1" or bit5 == "0":

if bit5 == "1":

GPIO.output(13,True)

else:

GPIO.output(13, False)

if bit6 == "1" or bit6 == "0":

if bit6 == "1":

GPIO.output(19,True)

else:

GPIO.output(19, False)

if bit7 == "1" or bit7 == "0":

if bit7 == "1":

GPIO.output(26,True)

GPIO.output(2,True)

else:

GPIO.output(26, False)

GPIO.output(2,False)

print("8")

elif (tiempoF - tiempoI).seconds < 10:

time1 = 9

URL = 'https://w95davn4k4.execute-api.us-east-2.amazonaws.com/Fase1/'

URL = URL + "?PulsoPi=" + str(time1)

response = requests.post(URL)

print(response.status\_code)

bit1 = response.text[1]

bit2 = response.text[2]

bit3 = response.text[3]

bit4 = response.text[4]

bit5 = response.text[5]

bit6 = response.text[6]

bit7 = response.text[7]

if bit1 == "1" or bit1 == "0":

if bit1 == "1":

GPIO.output(9,True)

else:

GPIO.output(9, False)

if bit2 == "1" or bit2 == "0":

if bit2 == "1":

GPIO.output(11,True)

else:

GPIO.output(11, False)

if bit3 == "1" or bit3 == "0":

if bit3 == "1":

GPIO.output(5,True)

else:

GPIO.output(5, False)

if bit4 == "1" or bit4 == "0":

if bit4 == "1":

GPIO.output(6,True)

else:

GPIO.output(6, False)

if bit5 == "1" or bit5 == "0":

if bit5 == "1":

GPIO.output(13,True)

else:

GPIO.output(13, False)

if bit6 == "1" or bit6 == "0":

if bit6 == "1":

GPIO.output(19,True)

else:

GPIO.output(19, False)

if bit7 == "1" or bit7 == "0":

if bit7 == "1":

GPIO.output(26,True)

GPIO.output(2,True)

else:

GPIO.output(26, False)

GPIO.output(2,False)

print("9")

GPIO.cleanup()