PRACTICAL-9

Q.9) Write a program to understand the use of Firebasae with Raspberry Pie to control sensors.

Ans:

**Project setup:**

* DHT11 sensor with 3 pins: GND, 5V and Data.
* Raspberry Pi v3 model B+, running Raspbian 4.9.35-v7.

**First, Configuration on Raspberry Pi with the following:**

1. sudo apt-get update
2. sudo apt-get install python-dev
3. wget https://bootstrap.pypa.io/get-pip.py
4. sudo python get-pip OR sudo apt-get install python-pip (new Raspian versions)
5. sudo pip install pyrebase

Now need to update pyasn modules (pip install --upgrade pyasn1-modules)

Download some files for the DHT11 sensor from github: https://github.com/adafruit/Adafruit\_Python\_DHT

Code:

import pyrebase

import sys

import Adafruit\_DHT

import time

config = {

"apiKey": "AIzaSyD68dO5eqaIPqa4KBm9DE0kt5U-aee2ooA",

"authDomain": "tempapp-a0c0e.firebaseapp.com",

"databaseURL": "https://tempapp-a0c0e.firebaseio.com",

"storageBucket": "tempapp-a0c0e"

}

firebase = pyrebase.initialize\_app(config)

db = firebase.database()

while 1:

humidity, temperature = Adafruit\_DHT.read\_retry(Adafruit\_DHT.DHT11, 4)

time\_hhmmss = time.strftime('%H:%M:%S')

date\_mmddyyyy = time.strftime('%d/%m/%Y')

data = {"Date": date\_mmddyyyy,"Time": time\_hhmmss, "Temperature": temperature, "Humidity": humidity}

db.child("/message").push(data)

print("Temp: %f -- Date: %s -- Time: %s" %(x,date\_mmddyyyy,time\_hhmmss))

time.sleep(60).