Pass Task: Arduino IoT Cloud

Yasmin Pokia

S222245206

*Q1. Perform week 3 activities mentioned in the unit site and produce outputs.*

*Q2. State the hypothesis you can think out of your data. Show the graph created from the sensor data, analyse it and describe if there are any interesting patterns you can observe. Justify if your hypothesis holds, at what level; if not, then what might be the reason?*

It is hypothesized that the temperature and humidity are inversely correlated, meaning that as the temperature increases, the humidity decreases.

A graph of a diagram

Description automatically generated with medium confidence

A graph of temperature and humidity

Description automatically generated

As shown above, the temperature graph shows fluctuations over a short period of time, due to me placing my hand over the sensor which increases the temperature.

The humidity graph shows fluctuations also and peaks in humidity when temperatures are lower which suggests less air moisture saturation when its cooler.

Potential inverse relationships can be seen in the temperature and humidity graphs: humidity frequently decreases as temperature rises and vice versa. This relationship is usual because higher temperatures create lower relative humidity since warmer air can store more moisture. There is a noticeable inverse association when there is a substantial temperature shift. Other environmental considerations may make the association less noticeable during steady periods.

The hypothesis is supported by this pattern.

In the combined graph, you cannot see many fluctuations in temperature as the line is fairly straight compared to the humidity data.

*Q3. Create a video in Panopto/Cloud Deakin showing your Arduino Cloud Dashboard with your Thing’s data variables being updated, briefly discussing your graph and share the video link here.*

<https://deakin.au.panopto.com/Panopto/Pages/Viewer.aspx?id=f761f856-2e58-42ab-99ac-b1c3001c132c>

Q4. Create a subdirectory ‘week-3’ under directory ‘SIT225\_2024T2’, which you created for week 1 task, in your drive where you copy the Python script file, Arduino sketch file, data file and the generated graphs. Commit and push to changes to GitHub. Include the link to your repository here with a GitHub page screenshot of weekly folder content. A tutor may try to access your GitHub link, if necessary. Give access to your tutor by adding tutor’s email address as a collaborator of your private repository.