

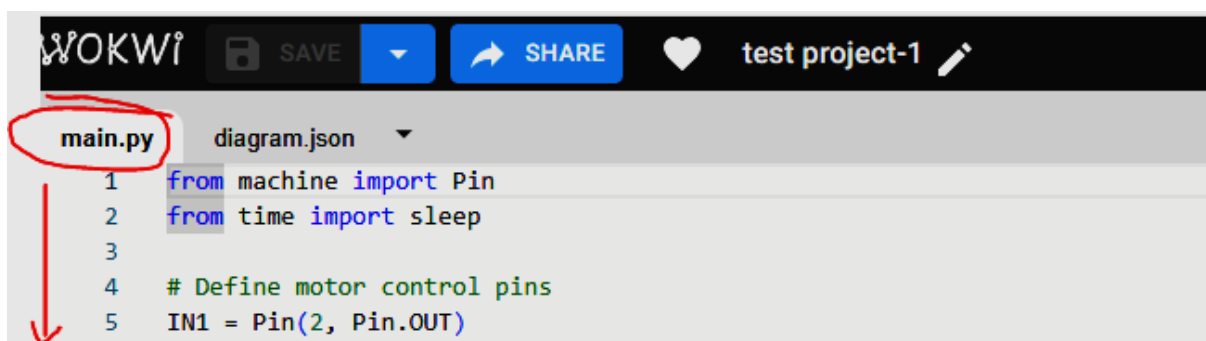
IoT Assignment-4 [3 Marks]

Task: On the **Wokwi** simulator, use '**Pi Pico microcontroller**' and '**Micropython starter template**' to design a gas detection system with the following functionality:

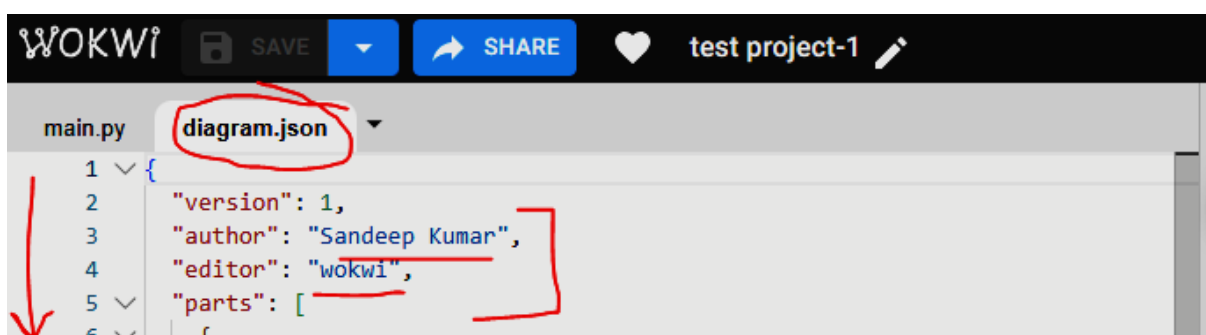
As soon as the gas detection level goes above threshold, the designed system should turn on an exhaust fan and sounds up an alarm. *At the same time, the fan and alarm must be turned off if the gas detection level goes below threshold.* Use **MQ2 gas sensor**, **a buzzer**, **a bipolar stepper motor** and **Pi Pico microcontroller with micropython template**.

Steps for submission:

(1) Design your project in **Wokwi** and put the snapshots of (i) **main.py**, and (ii) **diagram.json** in a word document. *See snap below to identify each of these:*



```
WOKWI SAVE SHARE test project-1
main.py diagram.json
1 from machine import Pin
2 from time import sleep
3
4 # Define motor control pins
5 IN1 = Pin(2, Pin.OUT)
```



```
WOKWI SAVE SHARE test project-1
main.py diagram.json
1 {
2   "version": 1,
3   "author": "Sandeep Kumar",
4   "editor": "wokwi",
5   "parts": [
6     {
```

(2) Subsequently, paste the snapshots of running simulation (**with results**) in the word document.

(3) Finally, paste the **link** to access and verify (simulate) your Wokwi design in the word document. *[The steps of generating the link are provided below].*

(4) Name the document as '**Assignment-4_CSE Section No_Your enrolment No**' and submit it as a word document in your respective Google Classroom Sections. The deadline to submit this assignment is **09 March till 11:59 PM. After this deadline, the G-Class link will not accept any assignment and the emailed assignments will NOT be accepted. No extension will be provided in the deadline at all.**

Important things to note:

(1) Only the fully worked-upon assignments (all above steps-1, 2, 3 completed) will get full marks.

(2) If the link to your assignment (step-3 above) is **not found**, zero marks will be awarded.

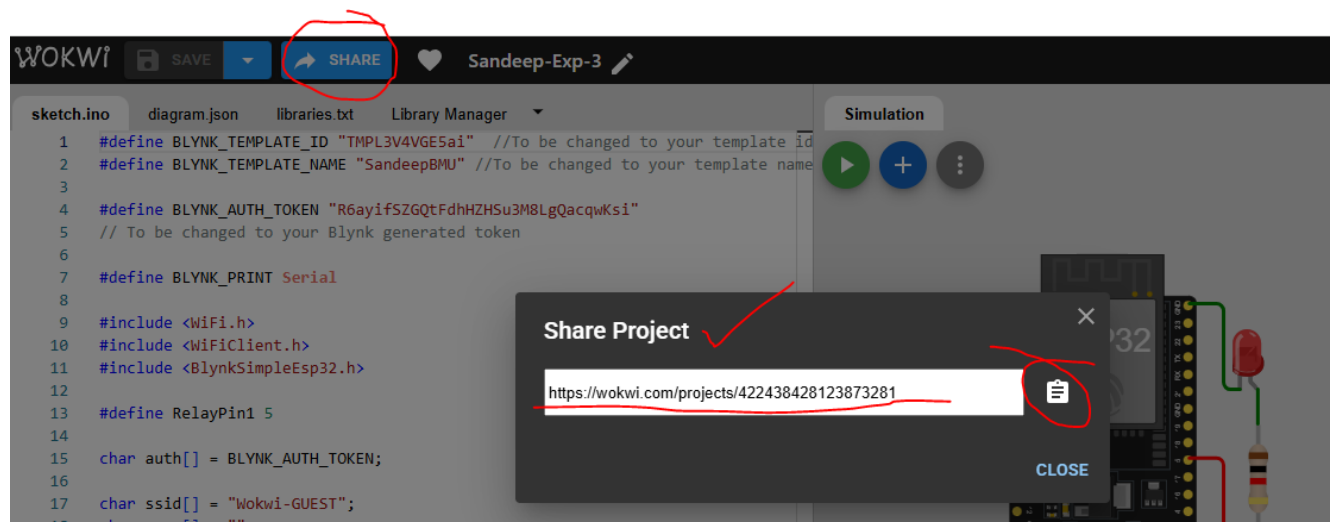
(3) If the link to your assignment (step-3 above) is **found as NOT-WORKING**, zero marks will be awarded.

(4) If the link to your assignment (step-3 above) is found bearing **SOMEONE'S ELSE NAME (as seen in Diagram.json)**, zero marks will be awarded.

How to share the link to simulate (verify) your design:

Login to your **Wokwi** account → Go to **Docs** tab on the top right corner → select (click) **my projects** → select (open) your design.

Click on **SHARE** and copy the link. (see snap below)



Test this link in another browser. It should show your project completely which can be simulated to see the results.

Paste this link in step-3 (word document) as mentioned above.