

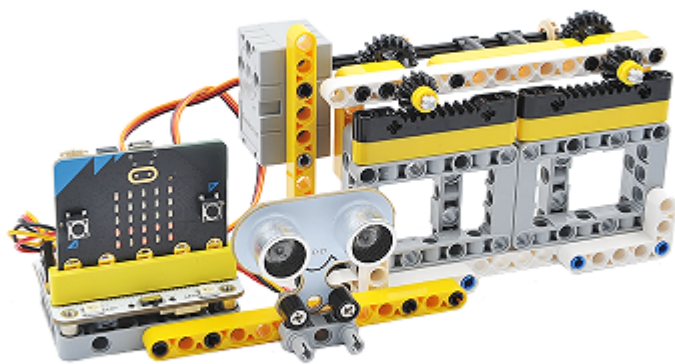
Case 09: Automatic Doors

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11.1. Purpose

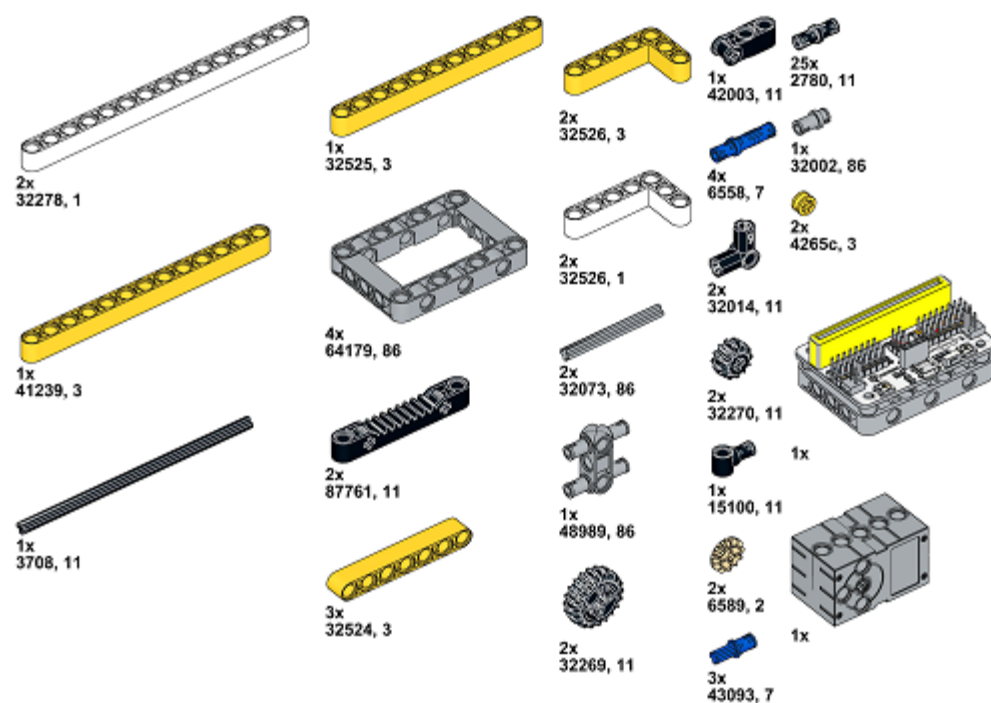
To make an automatic door.



11.2. Link:

[micro:bit Wonder Building Kit](#)

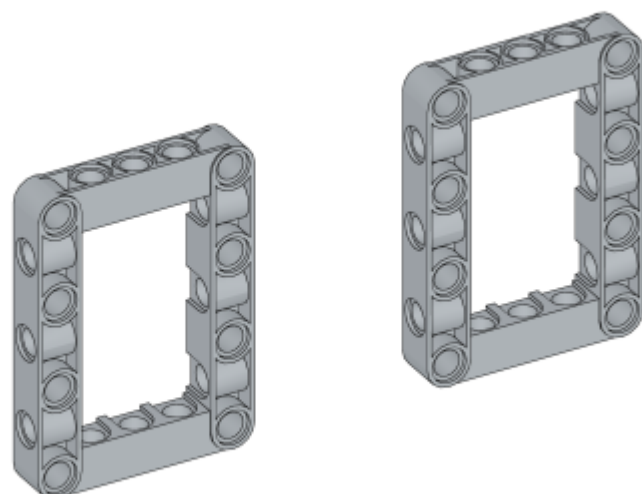
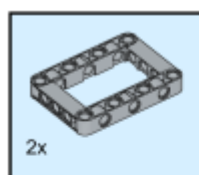
11.3. Materials Required



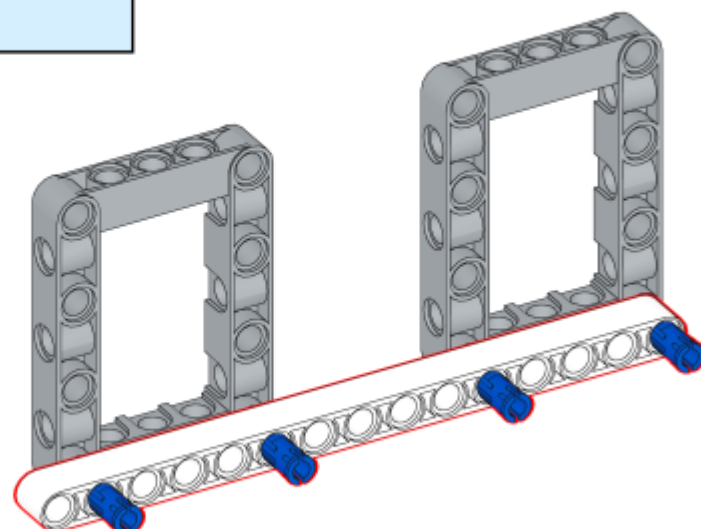
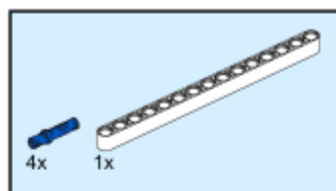
Video link: <https://youtu.be/JimDE7ArSjQ>

11.4. Bricks build-up

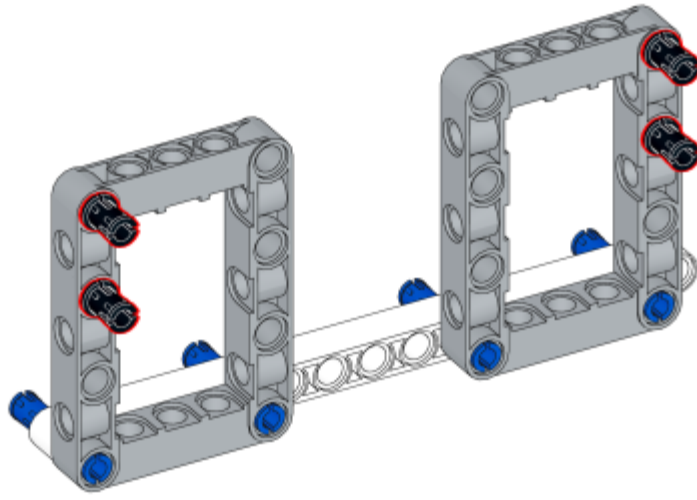
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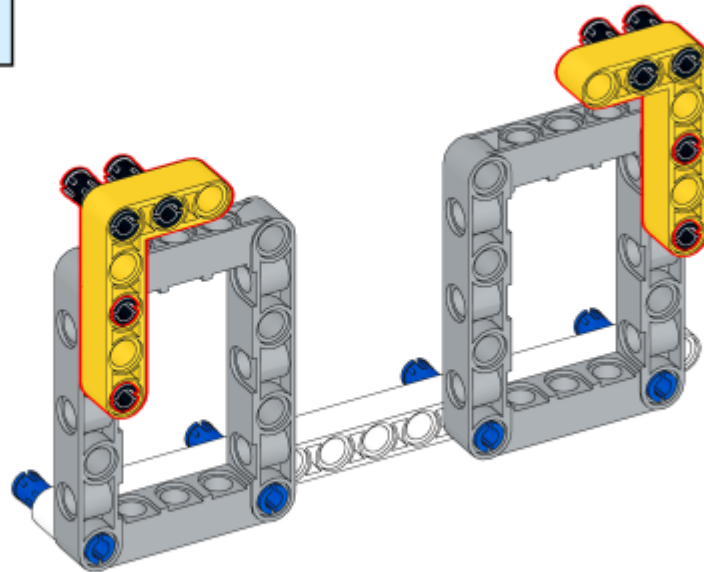
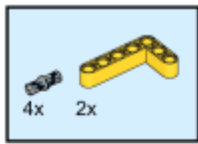
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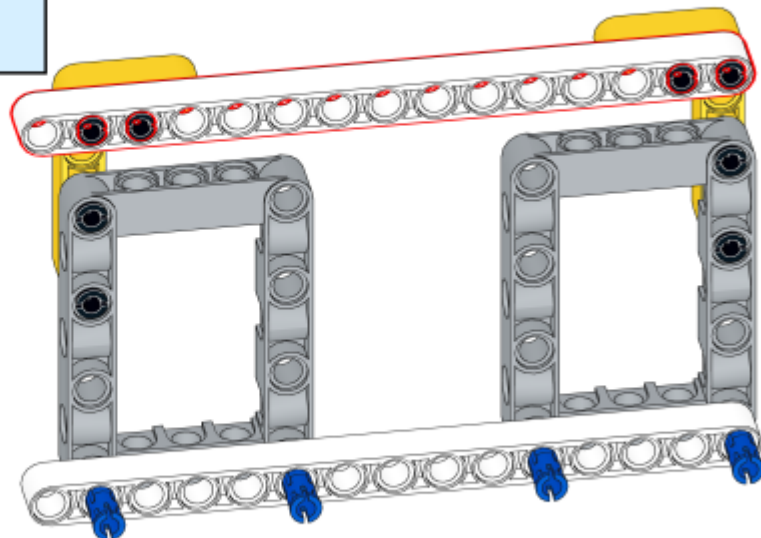
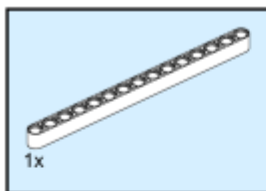
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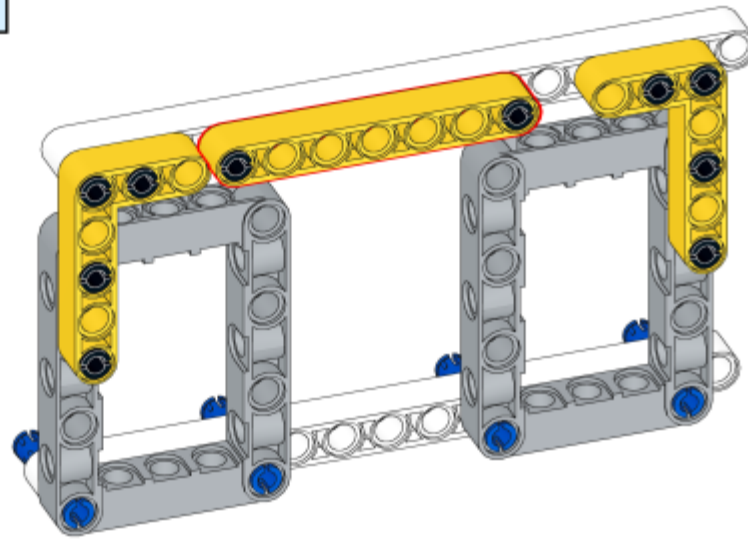
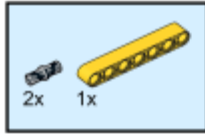
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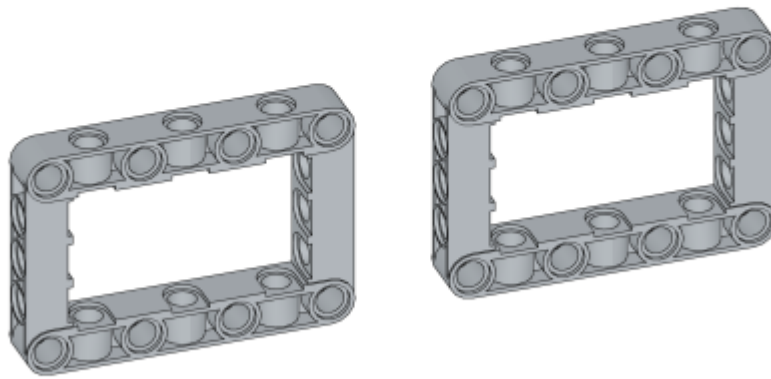
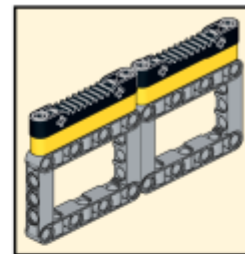
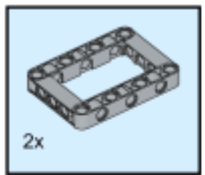
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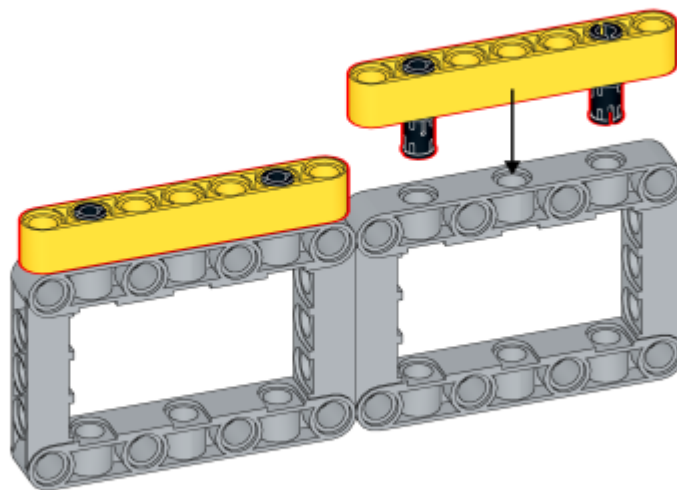
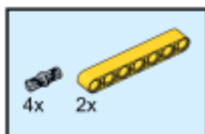
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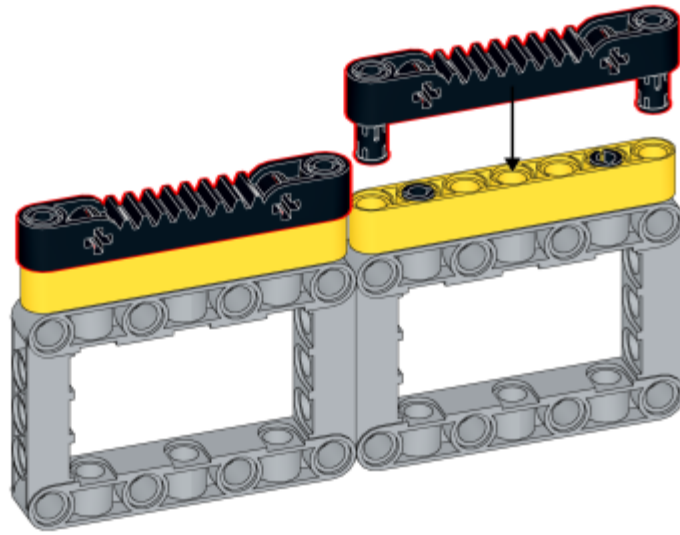
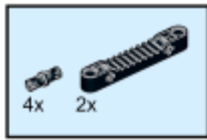
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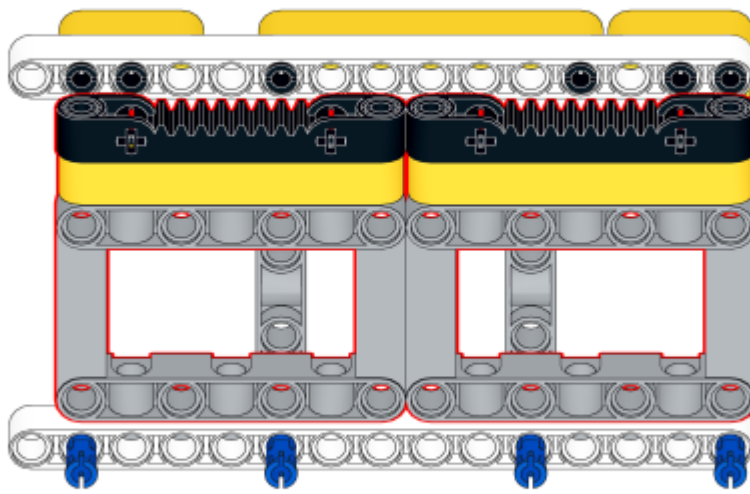
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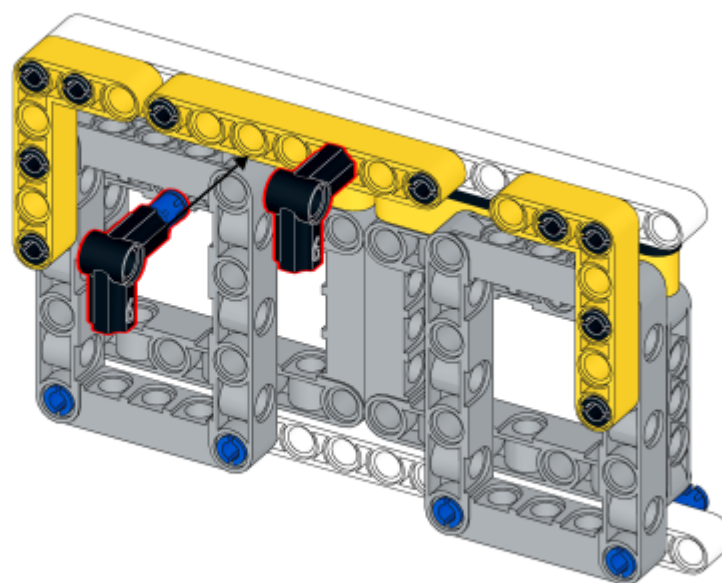
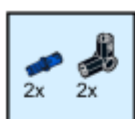
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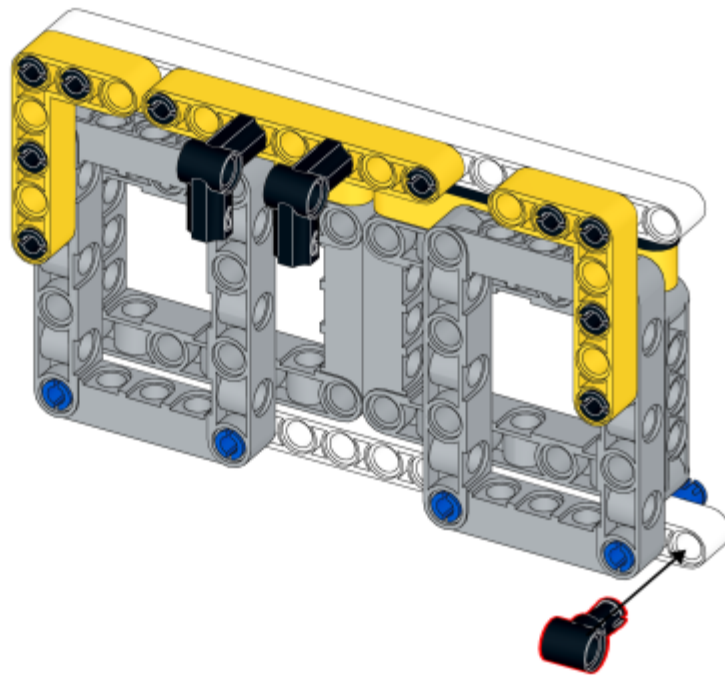
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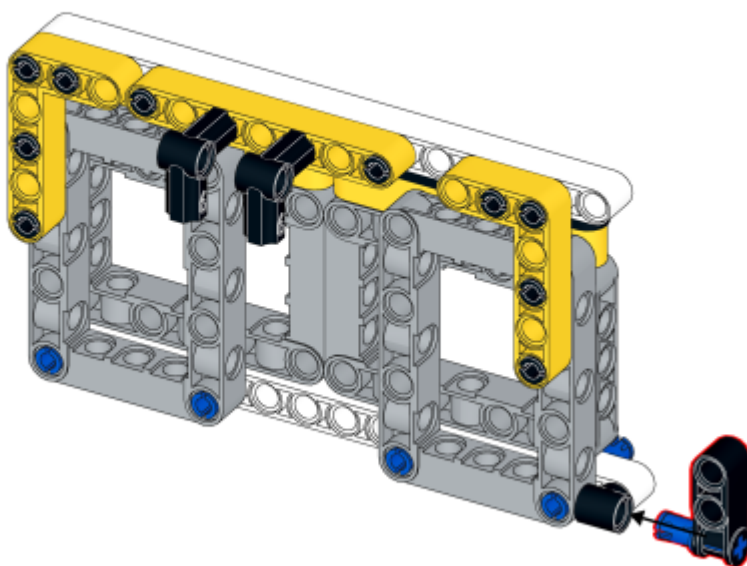
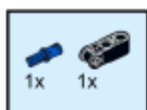
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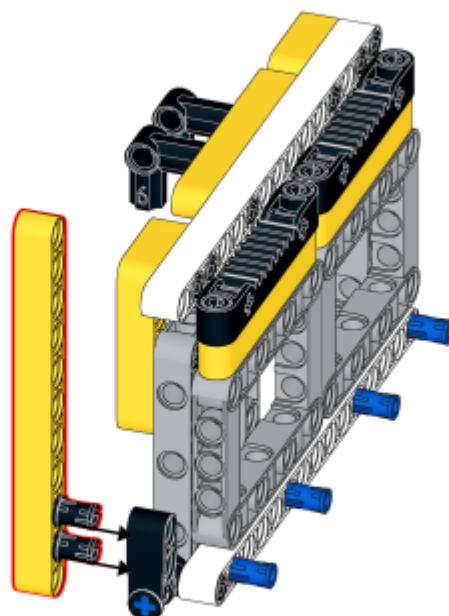
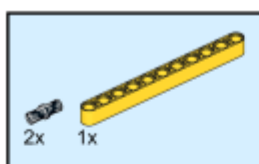
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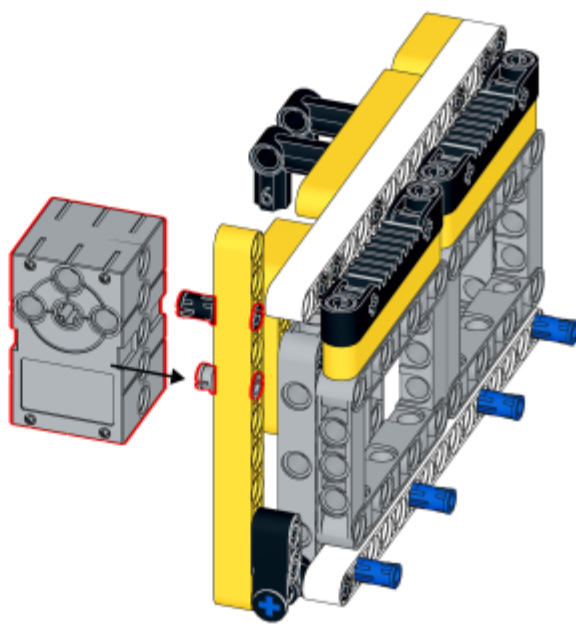
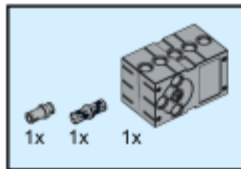
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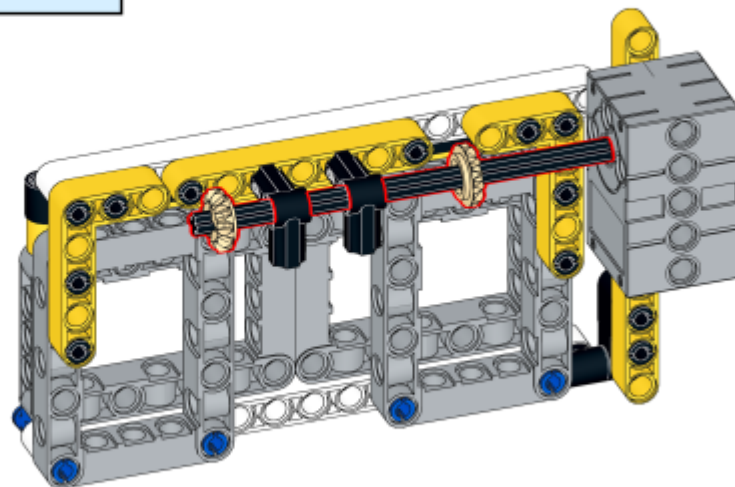
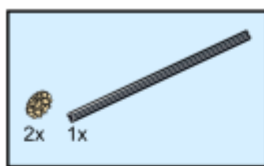
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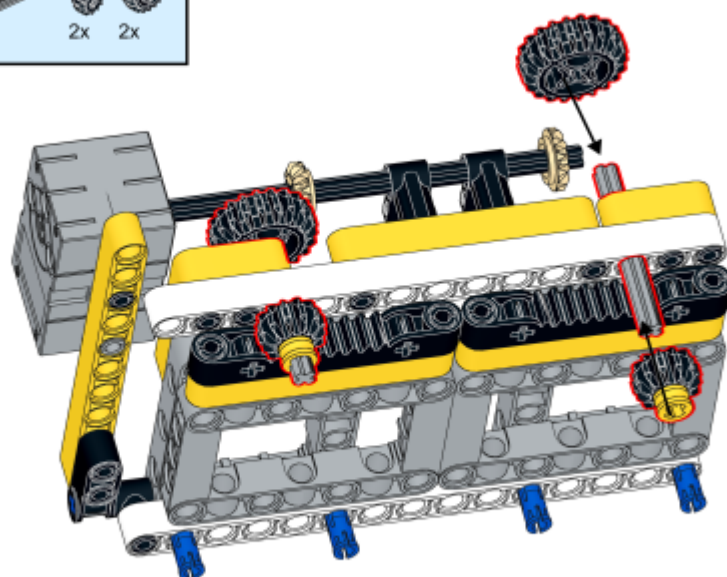
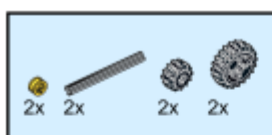
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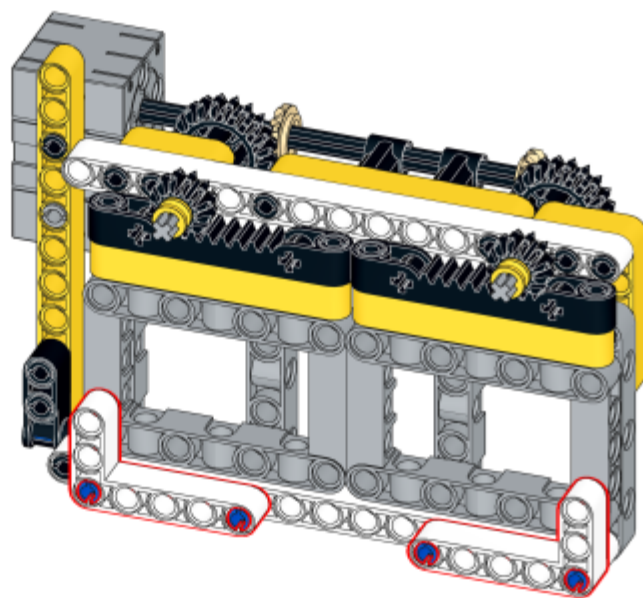
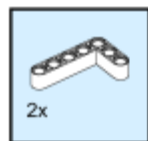
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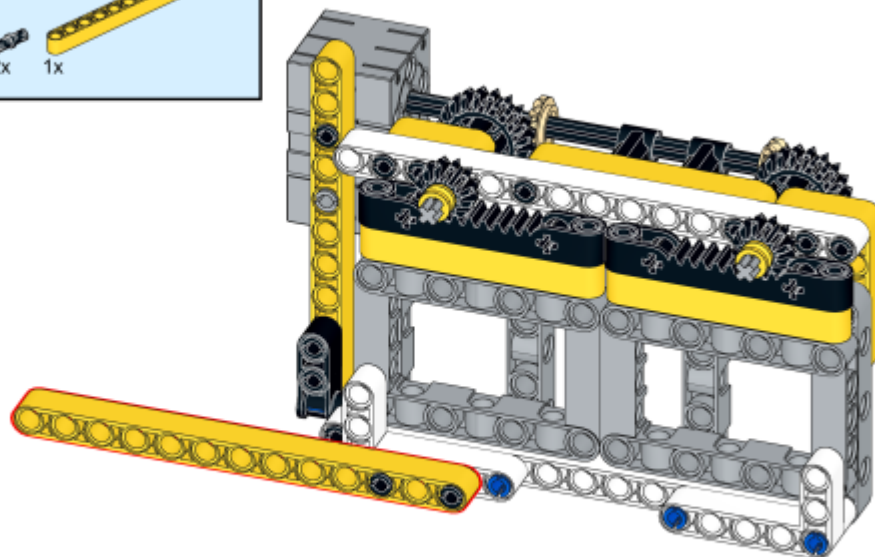
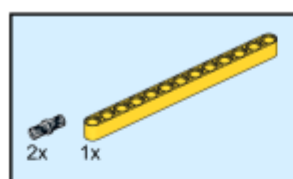
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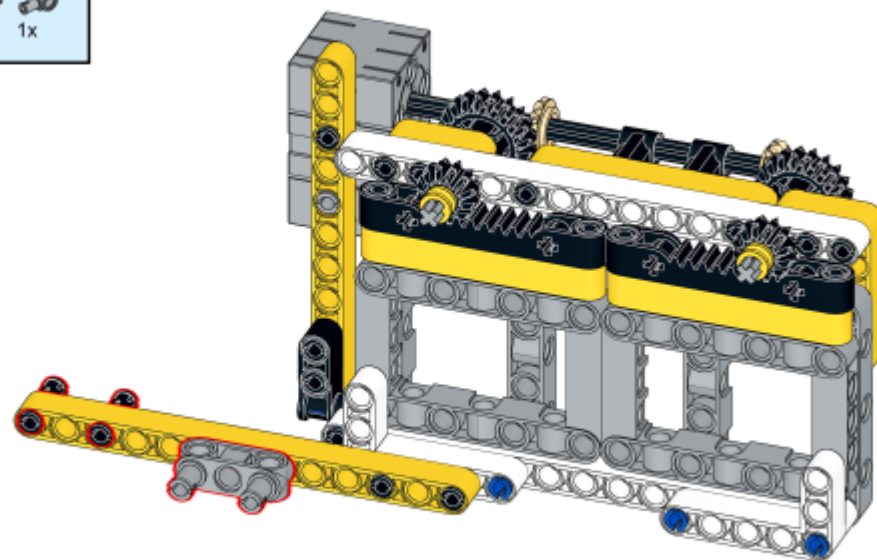
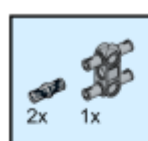
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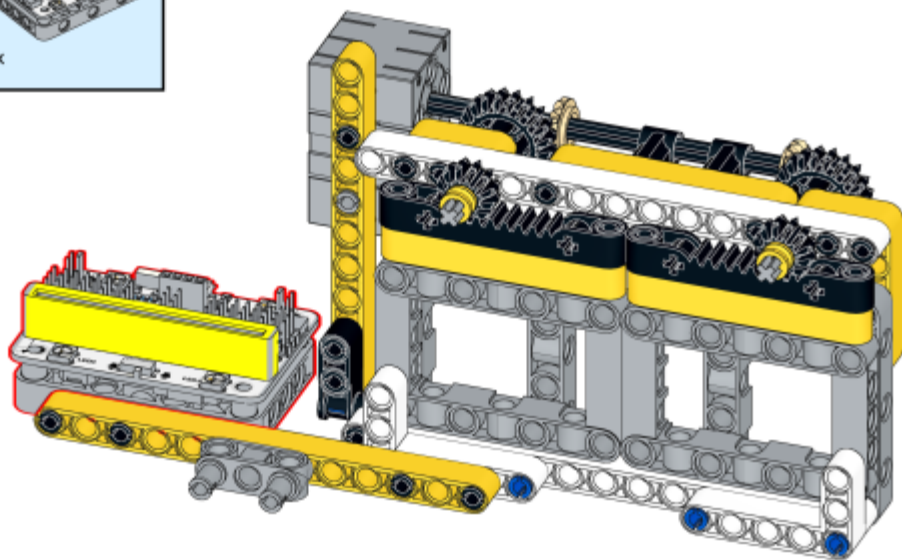
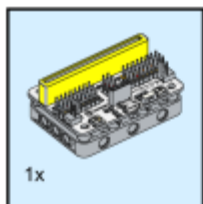
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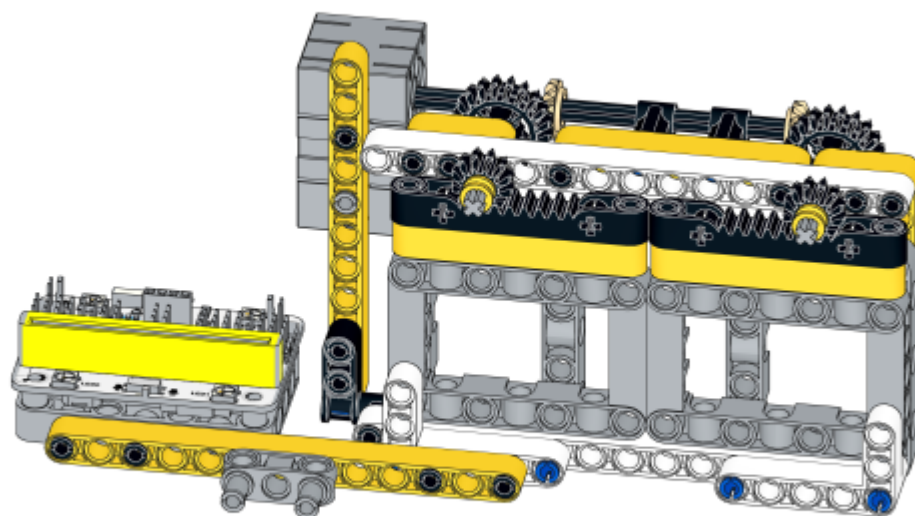
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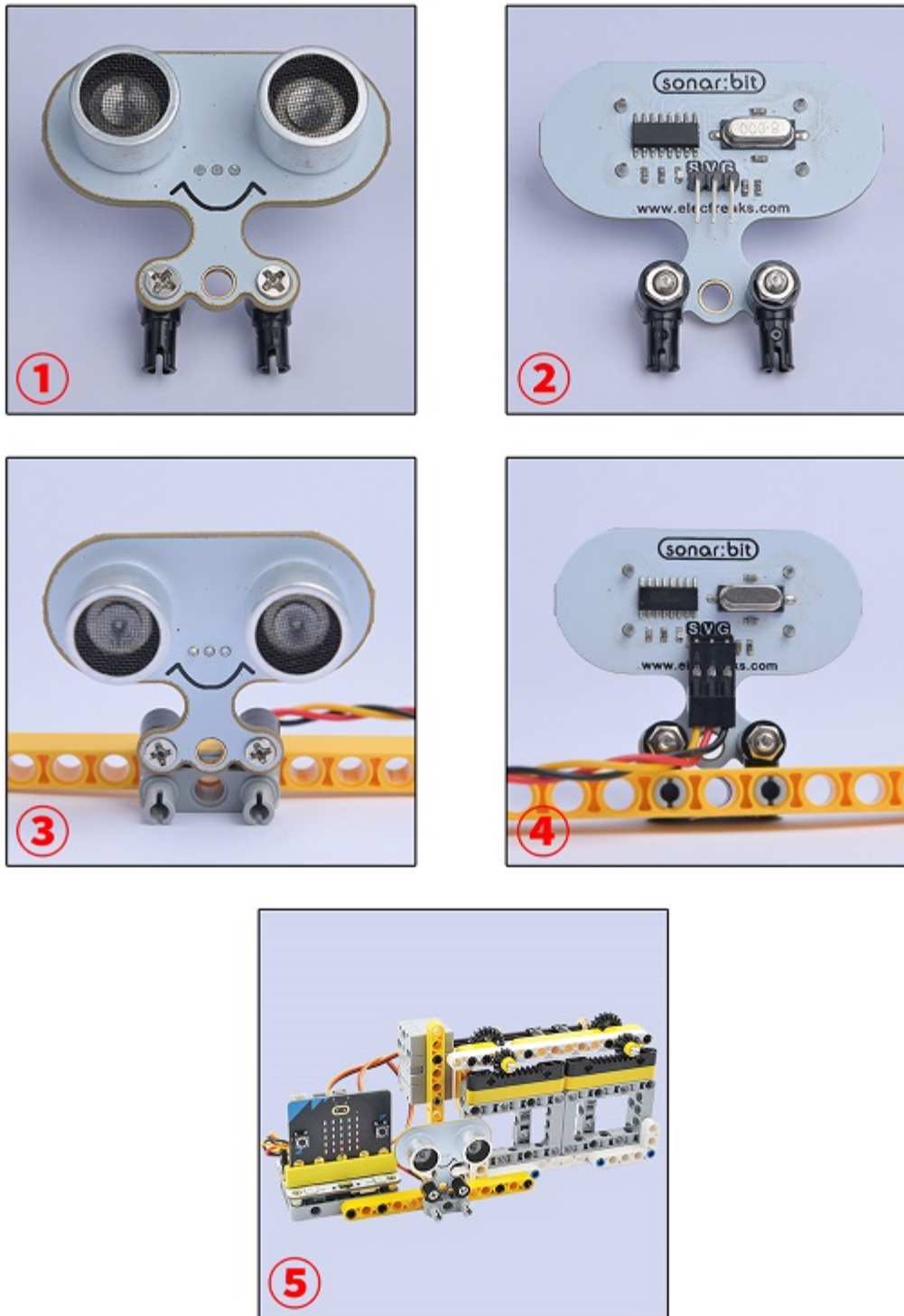
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11.5. Installation Methods of Hardwares

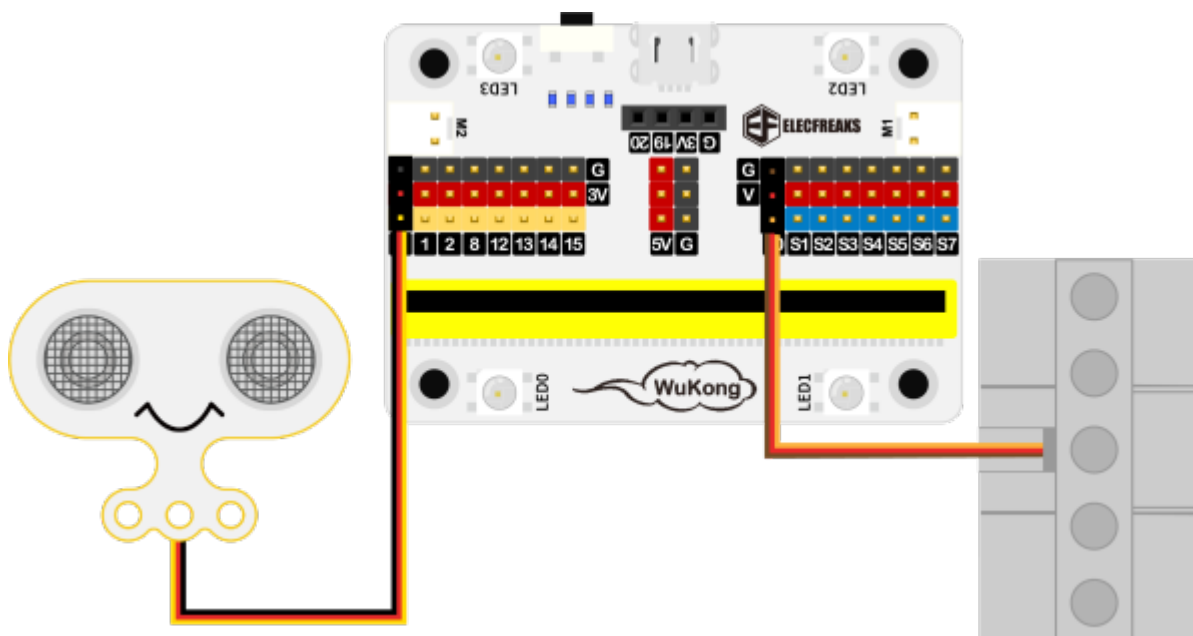
Install the sonar:bit with the bricks.

Sensor Connection Diagram



11.6. Hardware Connection

Connect a [sonar:bit](#) to P1 and the [servo](#) to S0 port on [Wukong breakout board](#).



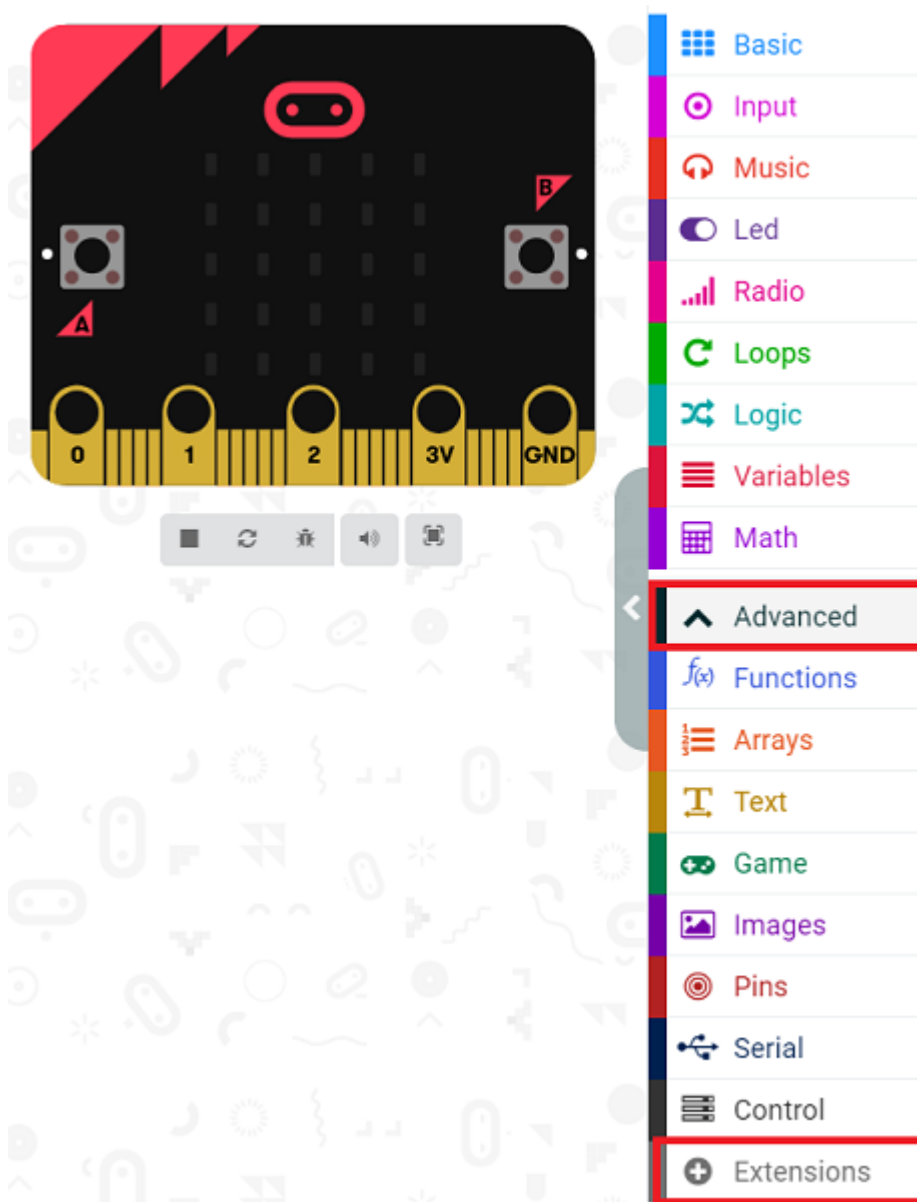
11.7. Software Platform

[MakeCode](#)

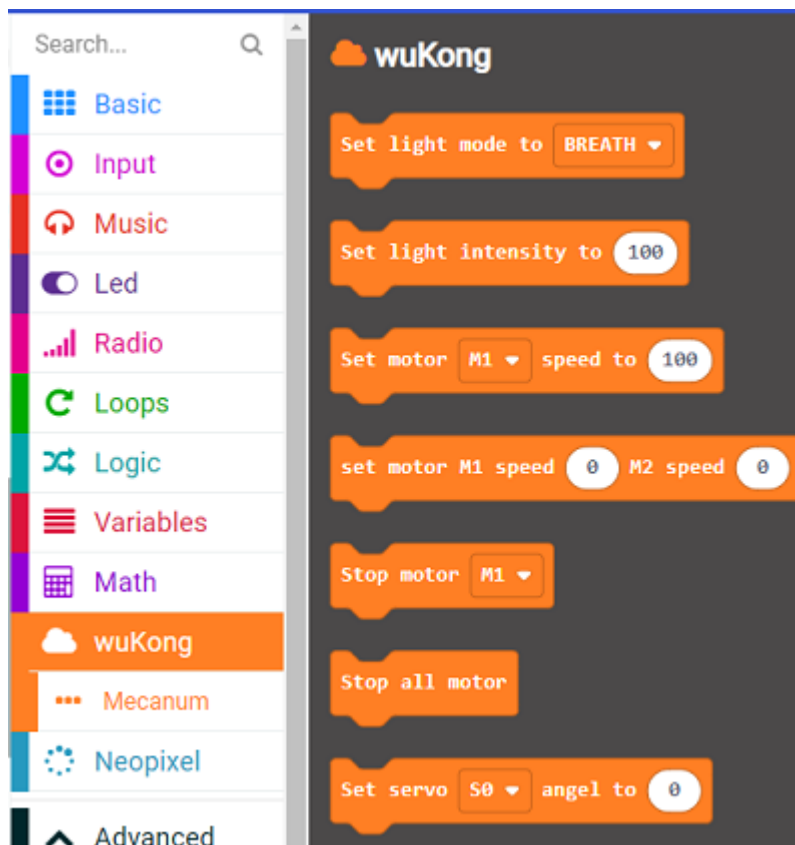
11.8. Coding

Add extensions

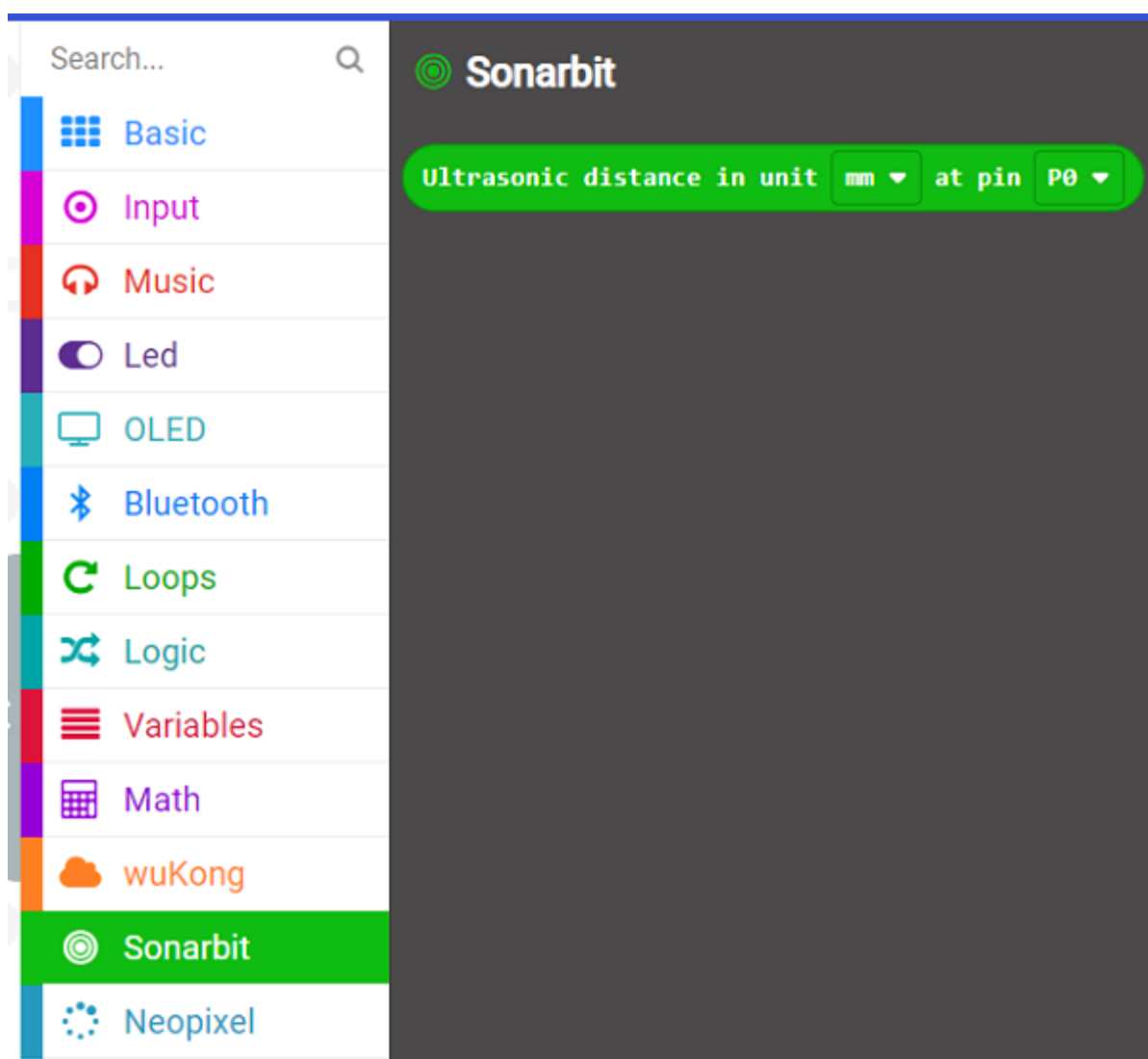
Click “Advanced” in the MakeCode to see more choices.



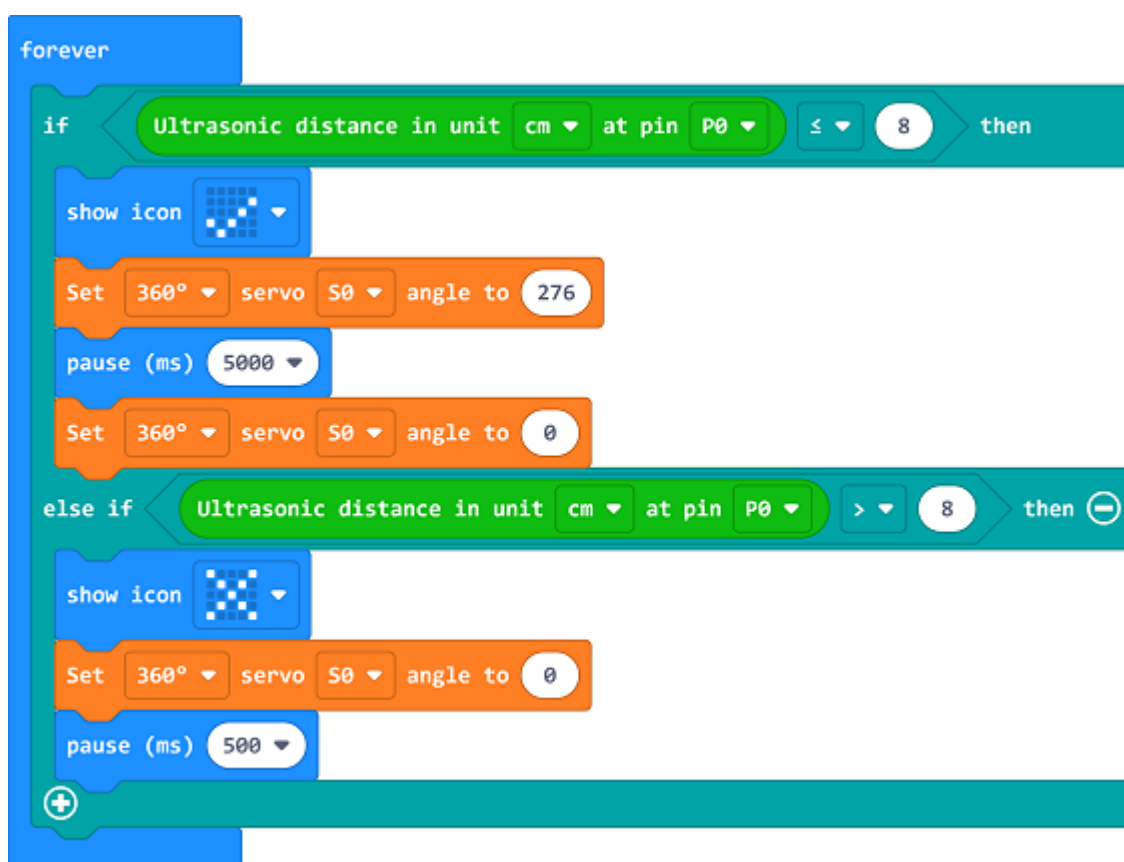
Search with Wukong in the dialogue box to download it.



Search with <https://github.com/electfreaks/pxt-sonarbit> in the dialogue box to add the sonar:bit extension.



Program



Link: https://makecode.microbit.org/_eUPf4XEudVKY

Result

When the ultrasonic sensor detects someone passing by, it will display √ on the micro:bit and control the servo to open the door and close it automatically after 5 seconds, if the ultrasonic sensor does not detect anyone, it will keep displaying × on the micro:bit and the door is closed.