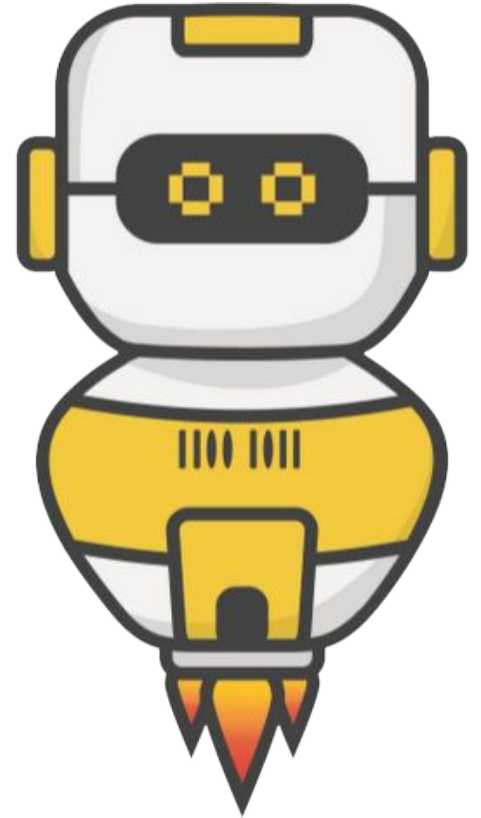# Mission 4 Remix

Create your own project from Mission 4

Pre-Mission Preparation

In the Mission 4 Remix Log, answer the pre-mission preparation questions:

- What was something cool about Mission 4?
- What was something challenging about Mission 4?

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# Time for a project remix!

A remix can be:

- A new program created by adding new code to a program you already created
- You can combine parts of two or more programs in a remix
- Use a similar idea in a different way

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Project Remix

Creating a remix will let you:

- Master the skills and concepts practiced in the mission
- Be creative
- Remember code from earlier programs and missions
- Work with your peers
- Design an original program and write the code all on your own

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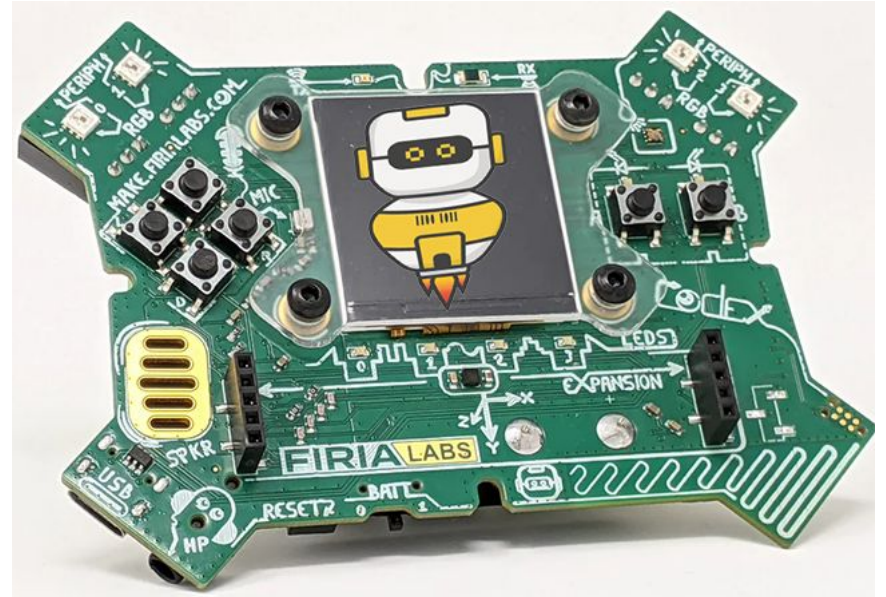
Step #1

Review the mission

- Open your project from Mission 4
  - What does the program do?
  - What skills were used or concepts learned?

DO THIS:

- Fill out the information in the Mission 4 Remix Log for **Step 1**

```python
from codex import *
from time import sleep

display.show("Press Button A")
sleep(1)
pressed = buttons.is_pressed(BTN_A)
if pressed:
    pixels.set(0, GREEN)
else:
    pixels.set(0, RED)

display.show("Press Button L")
sleep(1)
pressed = buttons.is_pressed(BTN_L)
if pressed:
    pixels.set(1, GREEN)
else:
    pixels.set(1, RED)

display.show("Press Button B")
sleep(1)
pressed = buttons.is_pressed(BTN_B)
if pressed:
    pixels.set(2, GREEN)
else:
    pixels.set(2, RED)
```

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Step #2

Brainstorm ideas

- Read through remix suggestions from your teacher

Three suggestions are on the next 2 slides. You can use one of these ideas or come up with your own.
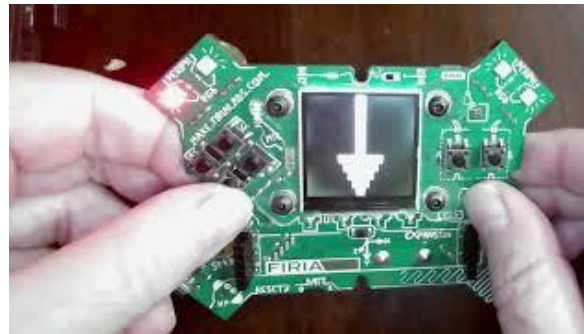
Step #2 Remix Ideas

🌶️ Mild

Add images to the code. When a pixel turns green, display an image like a happy face. When a pixel turns red, display a different image, like a sad face.

🌶️🌶️ Medium

Use images instead of printed instructions. There are arrow images available. Display an arrow and check for the correct button. For example, the north arrow goes with BTN_U.

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Step #2

🌶️🌶️🌶️ **Spicy**

Use a color of pixel to indicate which button to press. For example, if a pixel turns red, press BTN_U. If a pixel turns blue, press BTN_D. And so forth. You could use six colors and all six buttons. Display one image (like the happy face) if they choose correctly and a different image (like a sad face) if they are wrong. You may want to include a set of print statements at the beginning that tell the button and color combination.

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Step #2

Brainstorm ideas

- Read through remix suggestions from your teacher (previous slides)
- Use your creativity to come up with your own idea for a project
- Decide with your partner what project you will do

DO THIS:

- Fill out the information in the Mission 4 Remix Log for **Step #2**

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Step #3

Make a plan

- What variables will you need?
  - Note: you do not have to use a variable for this remix
- What images will you display?

DO THIS:

- Fill out the information in the Mission 4 Remix Log for **Step #3**

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Step #4

Code your project

- **IMPORTANT:** Go to the sandbox to code the remix project
  - Above toolbox in the lower left corner
- Start with a new file and give it a descriptive name (**Remix4**)
- You can leave **Display** open (use it as a guide)
- Import your modules
- Define your variables
- Write your code, testing frequently

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Step #4

Stop and test frequently!

- Don't try to write all the code at one time
- Mistakes happen, so find them early
- Type just a few lines of code and then run the program
- If there is an error, fix it before continuing
- Use the debugger and your other programs for help

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Step #5

Documentation!

- Make sure your code is readable by adding blank lines
- Add comments to sections of your code that explain what they do

Step #5

Get feedback

- Show your code to other students
- What do they think? Have them fill out the feedback form on your Mission 4 Remix Log
- Give yourself some feedback Is there something you want to change or improve or add? Fill out the feedback form on your Mission 4 Remix Log

Modify your code to make your project even better

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And now you have your own remix!

Congratulations!

By completing this remix you have:

- learned more about programming
- begun mastering the skills and concepts from the missions
- been thinking! And problem solving and much more!

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Mission Reflection

- Wow! Great job!

- Share your project with your friends!

- Complete your Mission 4 Remix Log

- Don't forget to clear your CodeX by running your **Clear** program