Lesson 4: Recap Lesson

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Review

- What are some features on the **Micro:bit?**
- What **sensors** does the Cutebot add?
- What does **RGB** stand for? What numbers would I use to get Red? Green? Purple?
- Where are the sensors that the Cutebot uses to **track lines**?

CuteBot Rules:

1. Only run bots on designated mats
2. Limit speed to < 75% (unless otherwise specified)
3. Unplug batteries when not in use
4. Do not drop the CuteBots

If you break any of these rules, you can choose:

A. Do 3 burpees
B. Sing "I'm a Little Teapot" song
C. Do 10 jumping jacks

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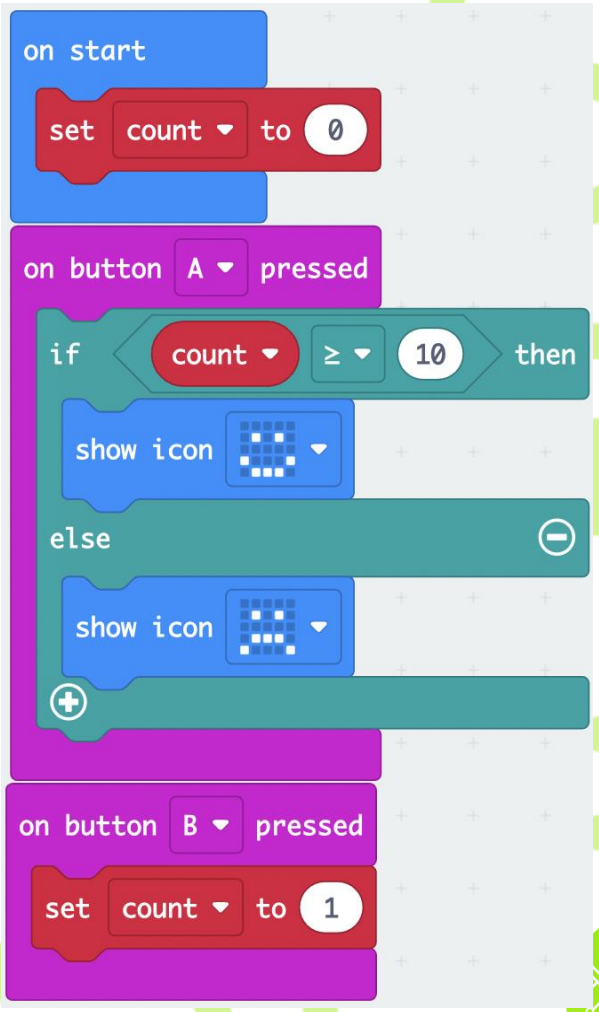
Debug Challenge #1

- This program should set a variable called count to zero and add one to it every time the B button is pressed. When the A button is pressed, if count is bigger than 10, I should see a smiley face. Otherwise, I should see a frowny face.
- No matter what I do, I only see the frowny face! Can you fix it?



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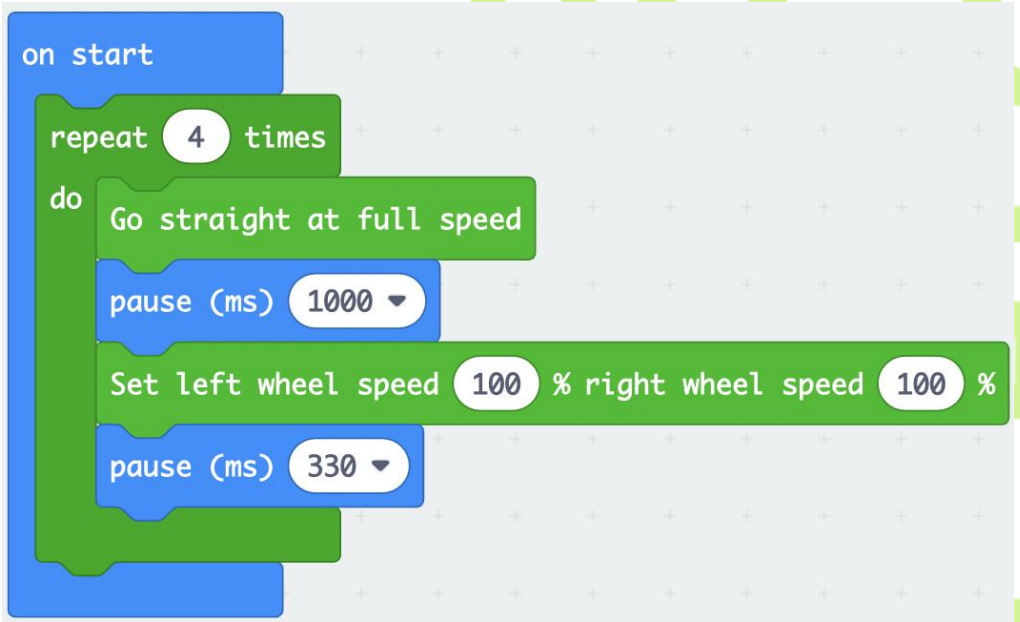
Debug Challenge #2

- When I download this program, my Cutebot should move in a square pattern
- Does it work? What's wrong with it?
- How can I fix it?



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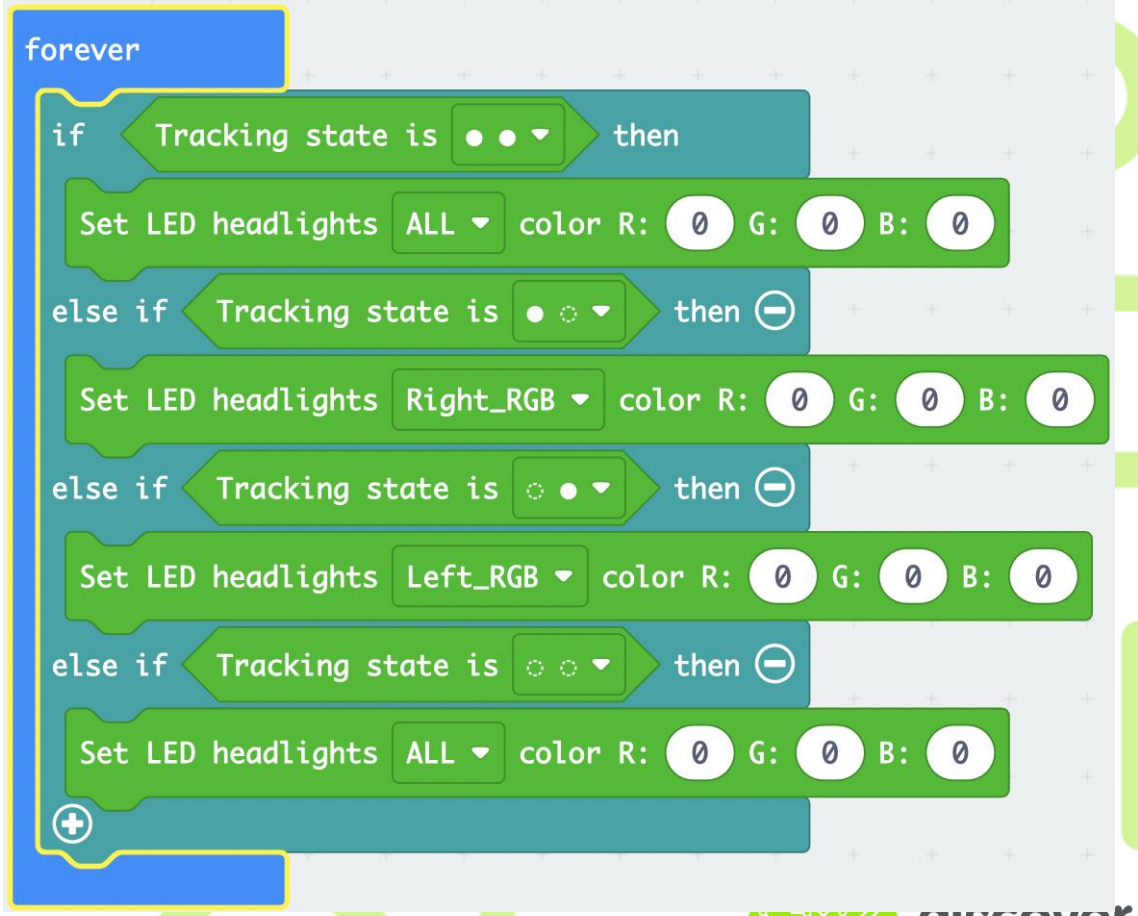
Debug Challenge #3

- This code is **almost** done
- What numbers would I put if:
  - When both sensors are not covered, both lights are white
  - When the right sensor is covered, the right light is blue
  - When the left sensor is covered, the left light is yellow
  - When both sensors are covered, both lights turn red



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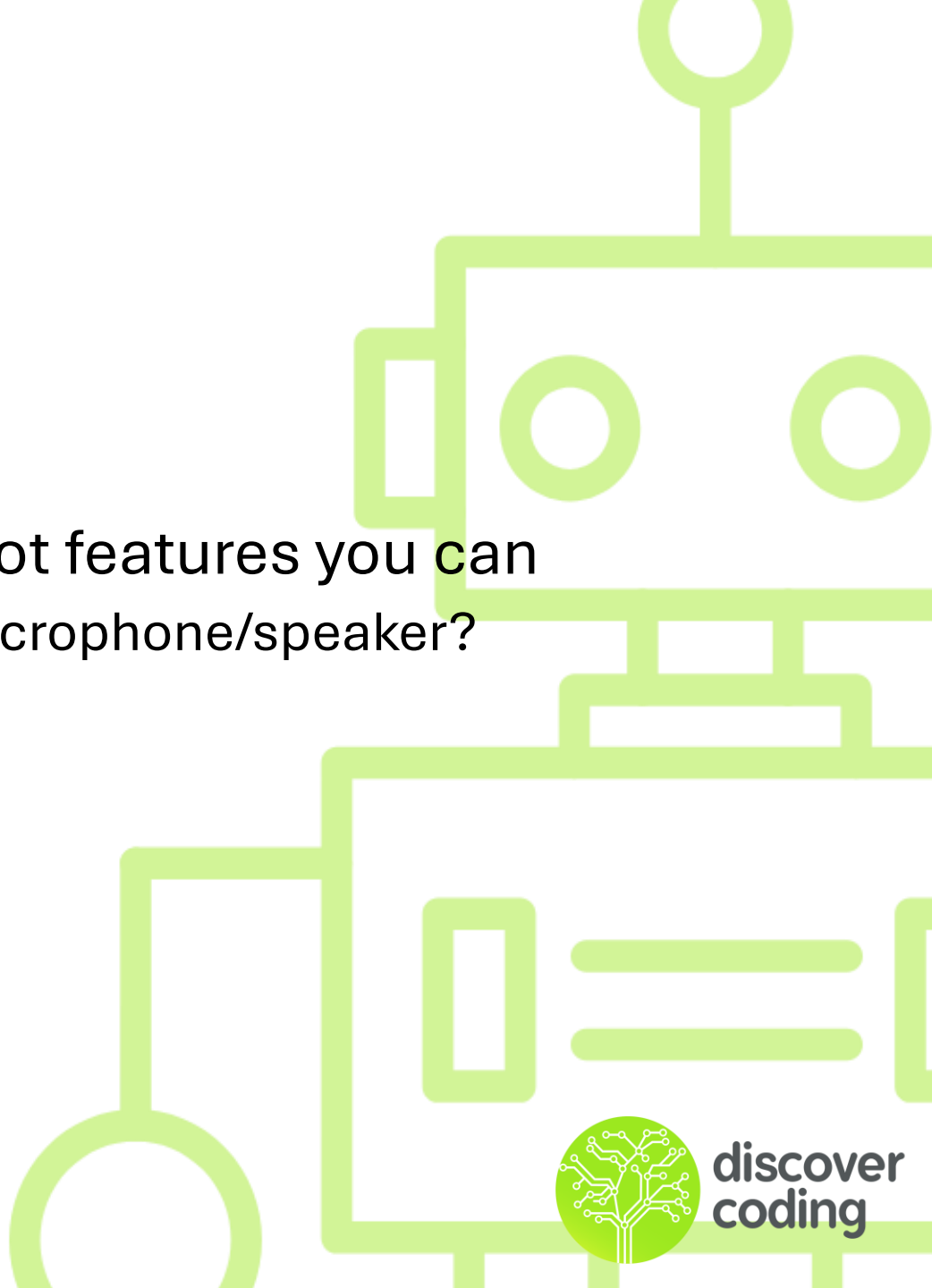
Putting it Together

- We now have all the tools we need to help our Cutebot **navigate a maze**
- Using our line sensor to stay within the maze, we want to reach the end as fast as we can
- Use the different features we talked about!
  - How can you use the RGB LEDs in this project?
  - What ways can you make sure the Cutebot stays in the maze?

Rules

- Work in teams of 1-2
- Use as many of the Micro:Bit and Cutebot features you can
  - How could you use the LED screen? The microphone/speaker?
  - RGB LEDs?
- Go for the fastest time!



Troubleshooting & Discussion

- What were some problems that came up? How did you solve them?
- Are there examples in the real world that use the same sensors and features we used today?
- Ideas on how we could make our programs better?