



Hour of Code

Cue's Secret Message

Let's use cue the robot with the Wonder Workshop cue app to make a secret message system.

Unlock the message with front and back commands.

Let's write a program that helps cue check for two requirements: if it sees something **in front** of it and if it sees something **behind** it. Once cue has detected these two signals, a message will be unlocked.

Step 1

First, let's test cue's **distance sensors**, which help the robot look for obstacles. Write and run the code below to change cue's face lights when cue sees something in front of or behind it.

- Which part of the code is related to the front sensor? Which is related to the back sensor?

```
1 events.whenObstacle(Obstacles.Center, ObstacleState.Seen, function () {
2   front = true
3   actions.setFacePattern("111100000111", 255)
4 })
5
6 events.whenObstacle(Obstacles.Back, ObstacleState.Seen, function () {
7   back = true
8   actions.setFacePattern("000111111100", 255)
9 })
10
```

Step 2

Now let's use two **variables** in our code. The variable **front** will keep track of whether cue has seen something **in front** of it and the variable **back** will keep track of whether cue has seen something **behind** it.

```
1 events.whenObstacle(Obstacles.Center, ObstacleState.Seen, function () {
2   front = true
3   actions.setFacePattern("111100000111", 255)
4 })
5
6 events.whenObstacle(Obstacles.Back, ObstacleState.Seen, function () {
7   back = true
8   actions.setFacePattern("000111111100", 255)
9 })
10
11 // on start
12
13 let front: boolean
14 let back: boolean
15 back = false
16 front = false
```

Step 3

To make the sensors unlock the secret message, we need to write code that checks whether both sensors have been triggered.

Let's design a **function** called **checkRequirements** that plays a sound if both **front** and **back** have been set to **true**. We'll call the **function** every time cue sees something **in front** of or **behind** it.

```

1  events.whenObstacle(Obstacles.Center, ObstacleState.Seen, function () {
2      front = true
3      actions.setFacePattern("111100000111", 255)
4      checkRequirements()
5  })
6
7  events.whenObstacle(Obstacles.Back, ObstacleState.Seen, function () {
8      back = true
9      actions.setFacePattern("000111111100", 255)
10     checkRequirements()
11 })
12
13 function checkRequirements() {
14     if (front && back) {
15         actions.playSound(Sounds.Mission_Success_1)
16     }
17 }
18 // on start
19
20 let front: boolean
21 let back: boolean
22 back = false
23 front = false
24

```

Make it your own!

There are many ways to make this program unique. Try these ideas:

- Record your own custom sound or message when both the front and back sensors are triggered.
- Change the program to detect sound sensors.
- Alter how cue behaves when seeing something (e.g., use wheel or head movements).
- Create additional requirements to unlock the message.
- Design a way for cue to require sensor inputs in a specific order.

What if there were several different messages to unlock in one program?

For more info, visit: makewonder.com/cue_the_cleverbot