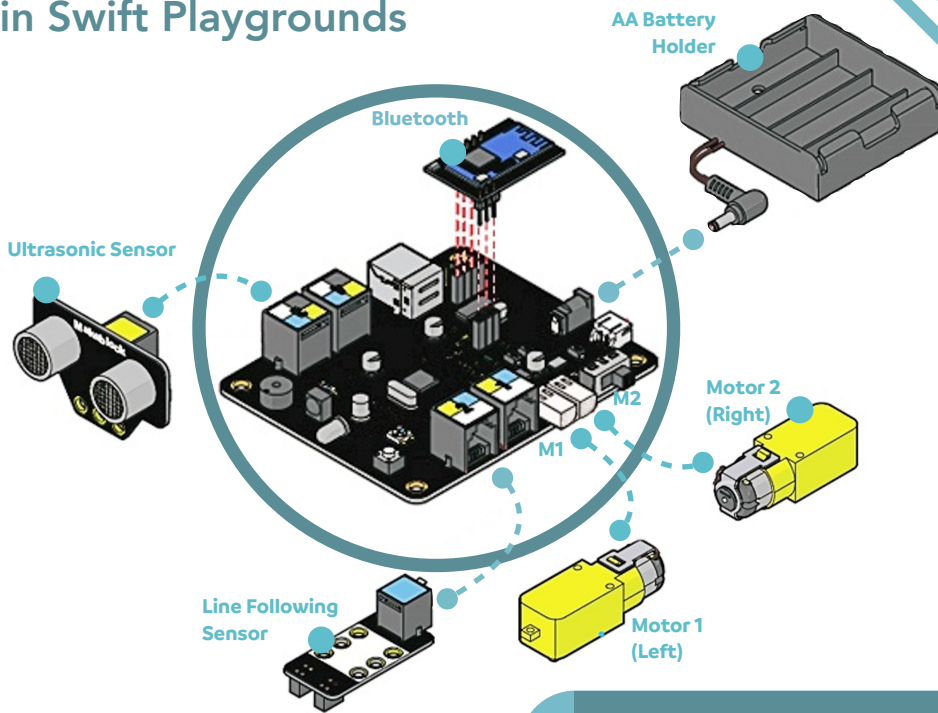
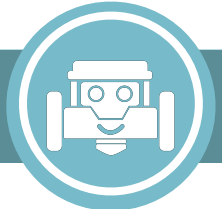


mBot Cheatsheet

in Swift Playgrounds

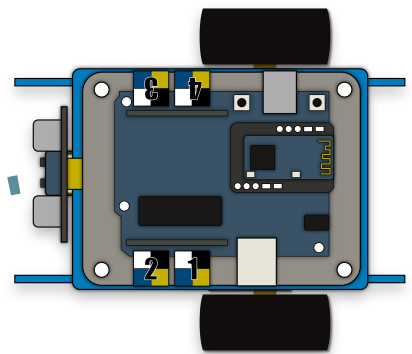


Motor Movement



Motors can go forward or backward using positive or negative numbers.

```
for i in 0...4{  
  move(leftSpeed: 100, rightSpeed: 100)  
  wait(duration: 2)  
  move(leftSpeed: -100, rightSpeed: 100)  
  wait(duration: 0.5)  
}
```



Debug with Sound

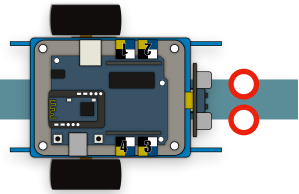
Use the `playSound()` function to give you audio cues when turning.

```
playSound(tone: .a4, meter: .half)  
playSound(tone: .f4, meter: .quarter)  
playSound(tone: .c5, meter: .whole)
```

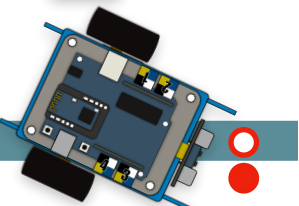


Line Following Sensor

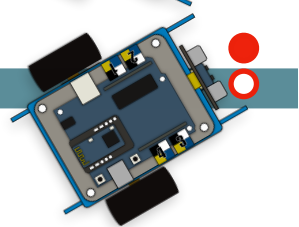
The Line Following Sensor uses infrared light to detect how much of a line is covering the sensors. There are four situations which will produce a value between 0 and 3.



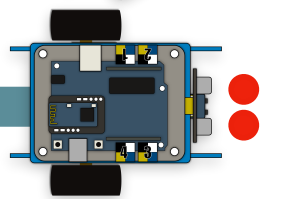
Situation 0



Situation 1



Situation 2



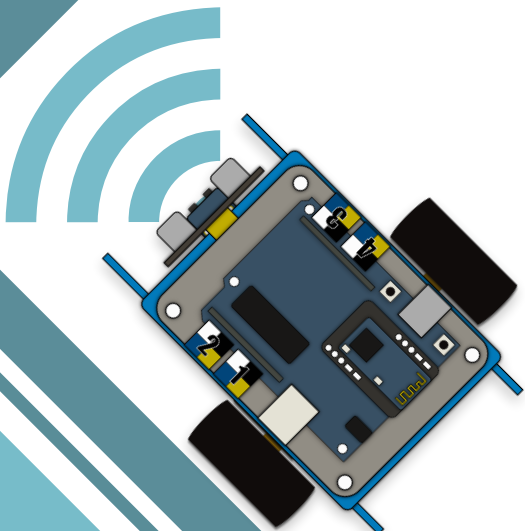
Situation 3

```
if line == 0 {  
    show(String(line))  
} else if line == 1 {  
    show(String(line))  
} else if line == 2 {  
    show(String(line))  
} else if line == 3 {  
    show(String(line))  
}
```

Ultrasonic Sensor



The Ultrasonic Sensor sends out a high frequency sound pulse and then times how long it takes for the echo of the sound to reflect back.



```
if ultrasonic > 0 || ultrasonic < 0 {  
    show(String(ultrasonic))  
} else {  
    show(String(ultrasonic))  
}
```