

Lesson 6: Worksheet 6.2 – Drive in response to a clap

In this activity, you need to write a program to make your Edison robot drive forward in response to a clap.

Your turn:

Task 1: Drive forward when a clap is detected

Write and run the following program:

```
1
2 #-----Setup-----
3
4 import Ed
5
6 Ed.EdisonVersion = Ed.V2
7
8 Ed.DistanceUnits = Ed.CM
9 Ed.Tempo = Ed.TEMPO_MEDIUM
10
11 #-----Your code below-----
12 Ed.ReadClapSensor()
13 while Ed.ReadClapSensor() == Ed.CLAP_NOT_DETECTED:
14     pass
15 Ed.Drive(Ed.FORWARD,Ed.SPEED_8,10)
16
```

1. Why is it necessary to perform an initial read of the clap sensor in line 12? What is this doing? *Hint:* Look back at worksheet 2.5.

Task 2: Drive forward, then backwards when a clap is detected

The Edison robot's sound sensor is not just sensitive to claps. The sensors can respond to any loud sound detected, which is why you can tap near the speaker on the robot to trigger the sound sensor.

Edison's motors, gears and wheels all make sounds as they turn, which can trigger the sound sensor. To prevent the sound of the robot driving from triggering the sound sensor, you need to alter the program.

You will need to add a `TimeWait()` function call with an input parameter of about 350 milliseconds to give the robot's motors time to stop.

You also need to use a `ReadClapSensor()` to clear the clap sensor.

Write the following program:

```
1
2 #-----Setup-----
3
4 import Ed
5
6 Ed.EdisonVersion = Ed.V2
7
8 Ed.DistanceUnits = Ed.CM
9 Ed.Tempo = Ed.TEMPO_MEDIUM
10
11 #-----Your code below-----
12 Ed.Drive(Ed.FORWARD,Ed.SPEED_8,10)
13
14 Ed.TimeWait(350,Ed.TIME_MILLISECONDS)
15 Ed.ReadClapSensor()
16 while Ed.ReadClapSensor() == Ed.CLAP_NOT_DETECTED:
17     pass
18 Ed.Drive(Ed.BACKWARD,Ed.SPEED_8,10)
19
```

Download and test the program.

2. Usually, we write a flowchart to help us plan out our code. For practice, write a flowchart to match the code you just wrote. Draw your flowchart below or try to use a program like Google Slides to make your flowchart.