



**Logic**

**Space**



**Coding**



**Focus**



# Classroom Discipline

**01**

Please sit down and keep quiet in class.

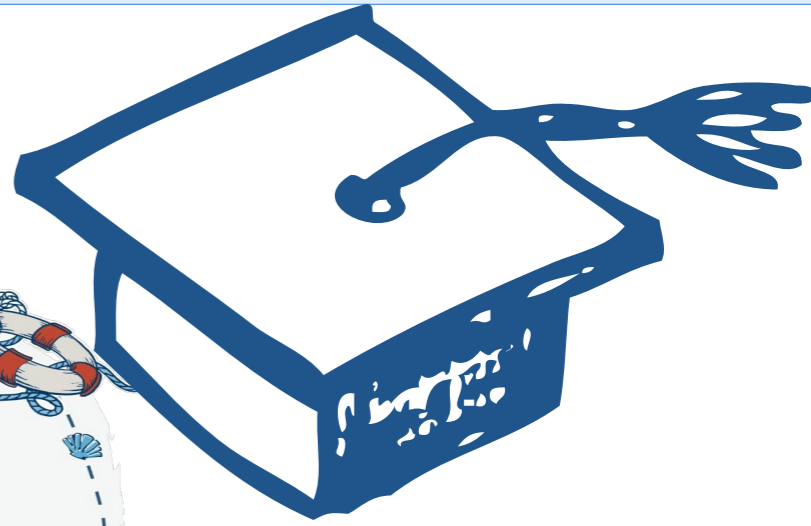
**02**

Please raise your hand if you have any questions.

**03**

Please observe carefully when the pictures are played.





# Tyrannosaurus

03





# Course Goals



Thinkidea

1

Learning goals

2

Project Discussion

3

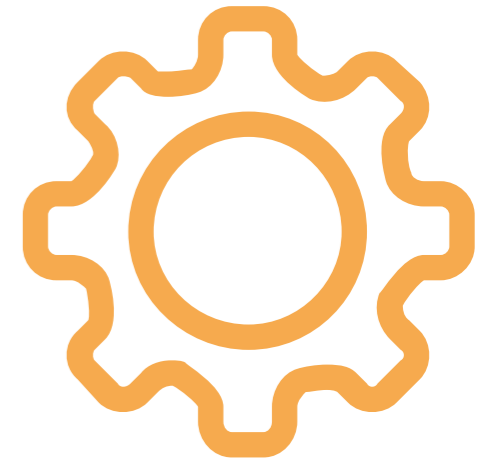
Logic Programming

4

Have a try

5

Consolidate and extend





1

Build a dinosaur park and let the dinosaurs can recognize their own names. When you wave at them or call their names, they will move forward.

2

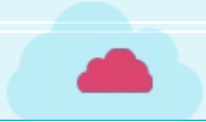
Consolidate modules such as "**Make a Block**" 、 "**gamut**" .

3

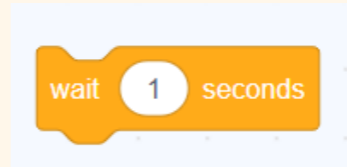
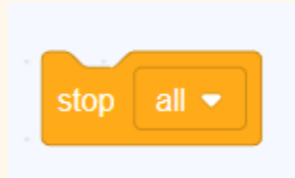
Learn new modules such as "**stopPlay**" 、 "**and**" 、 "**microphone**" .

4

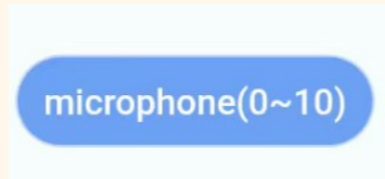
Comprehensively apply the learned modules to complete programming projects and expand.

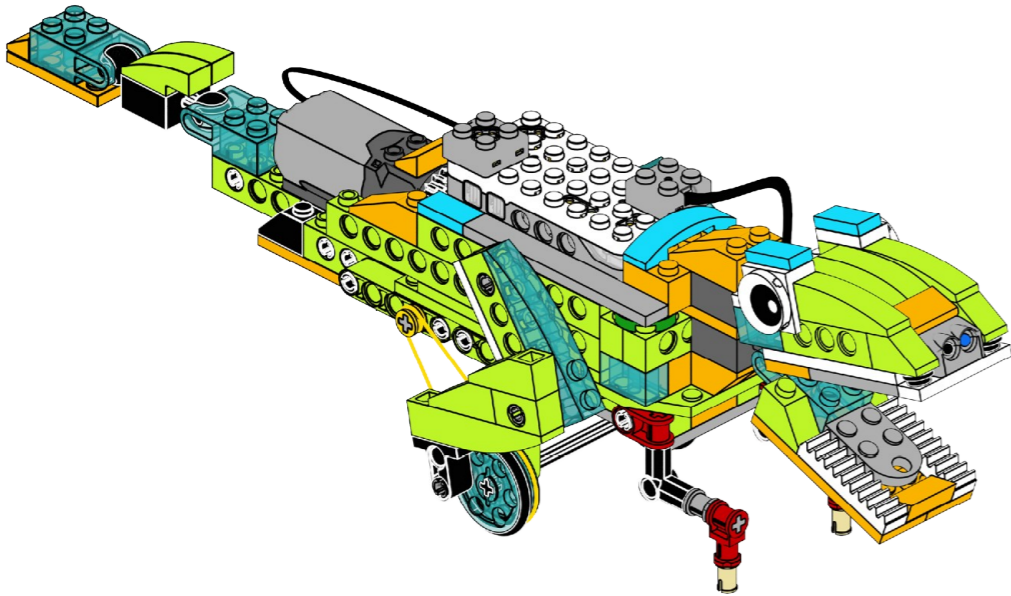


Consolidate  
modules:



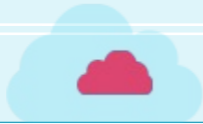
New  
modules:



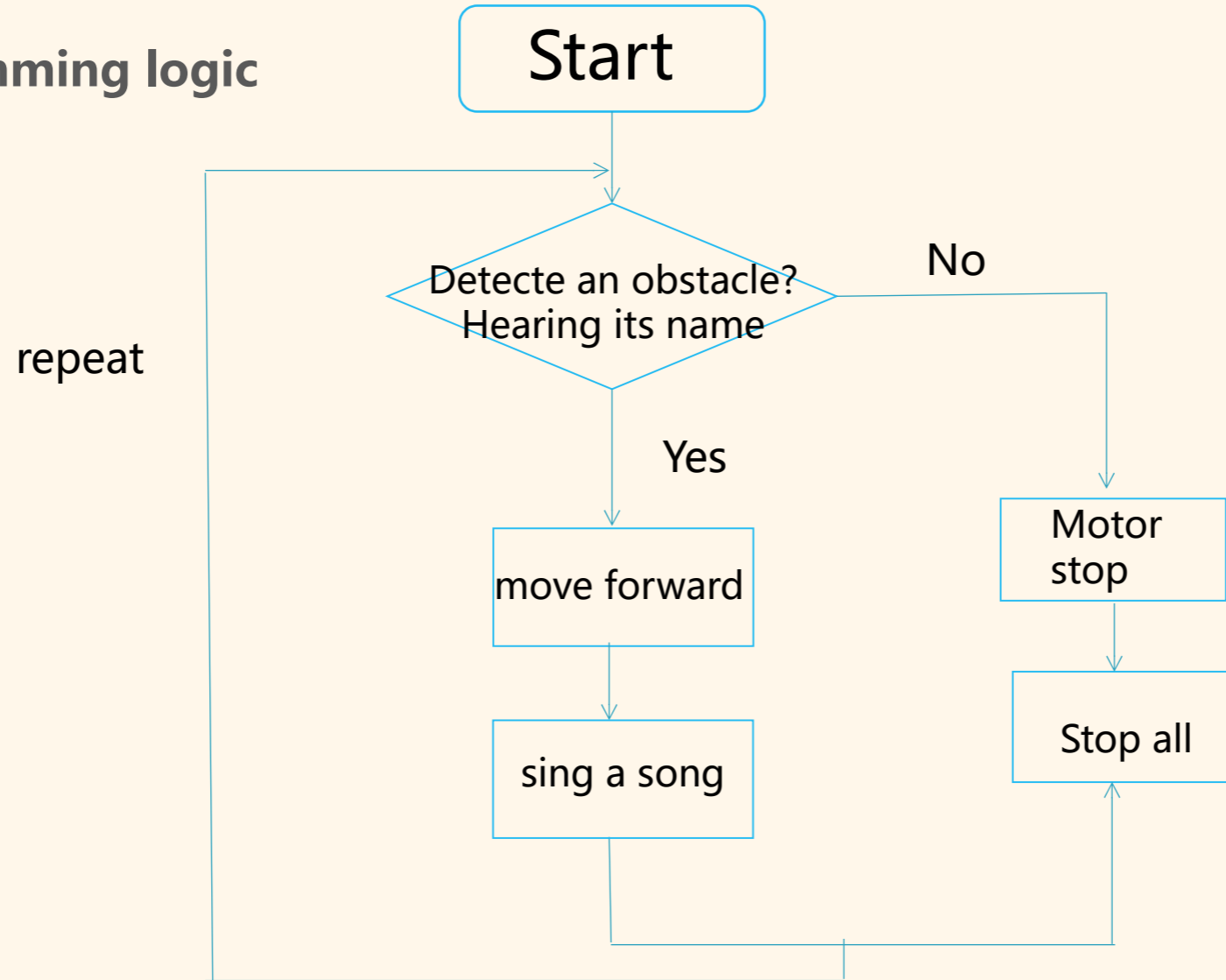


## Project Discussion

- 1. Give the dinosaur a wave or call its name.**
- 2. The dinosaur will move forward following your hand.**
- 3. Singing a beautiful song.**

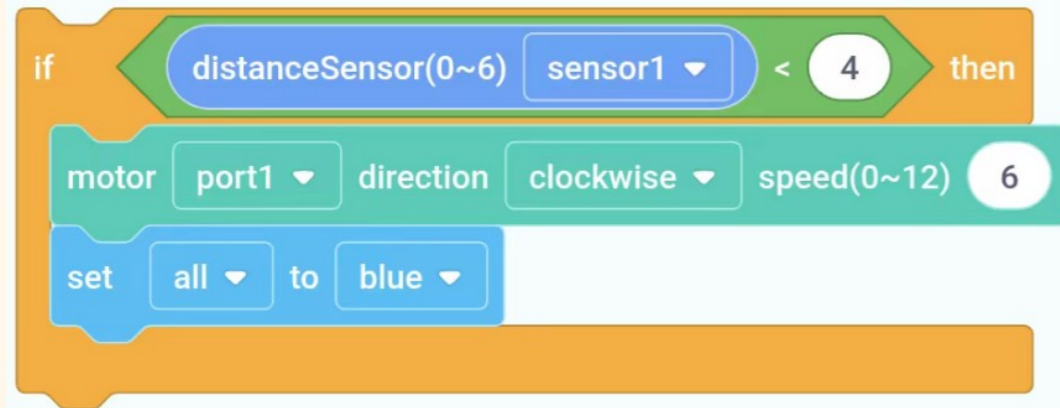
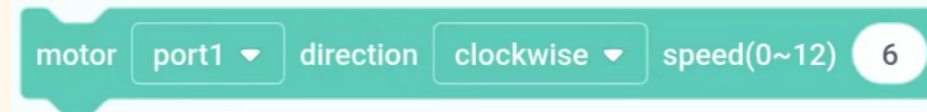
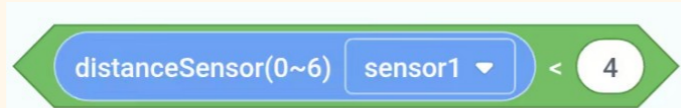


## 1. Programming logic



# 1. Move forward and light up.

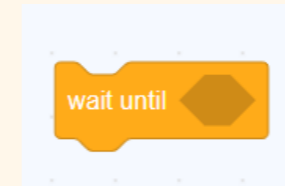
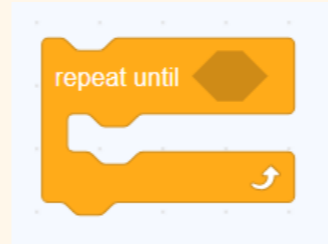
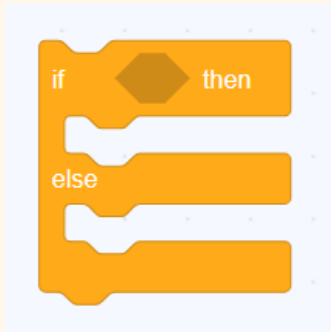
1. Use what you have learned and program it on your own!



The dinosaur moves forward and lights up in blue when it detects a hand wave.

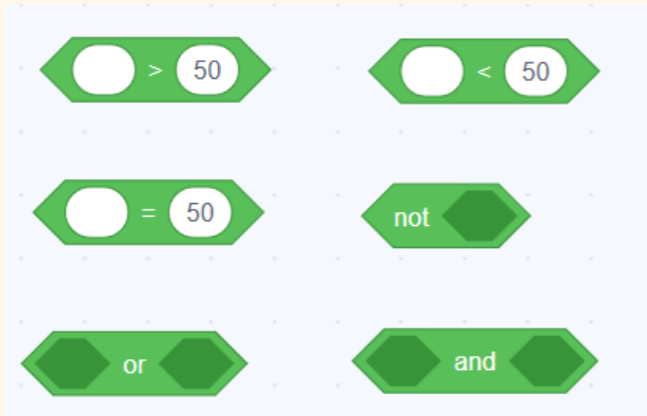
# 1. Move forward when it hears its name.

## 1. Condition blocks in the Control category.



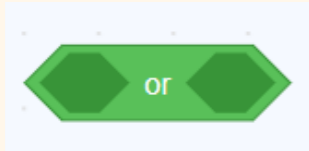
Complete a certain condition

## 2. Conditional statements in operations.



# 1. Move forward when it hears its name.

## 1. Learn new conditional statements.

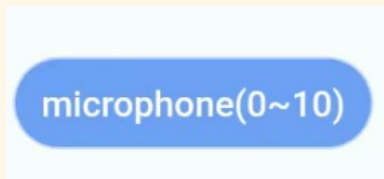


Meet one of the specific conditions.

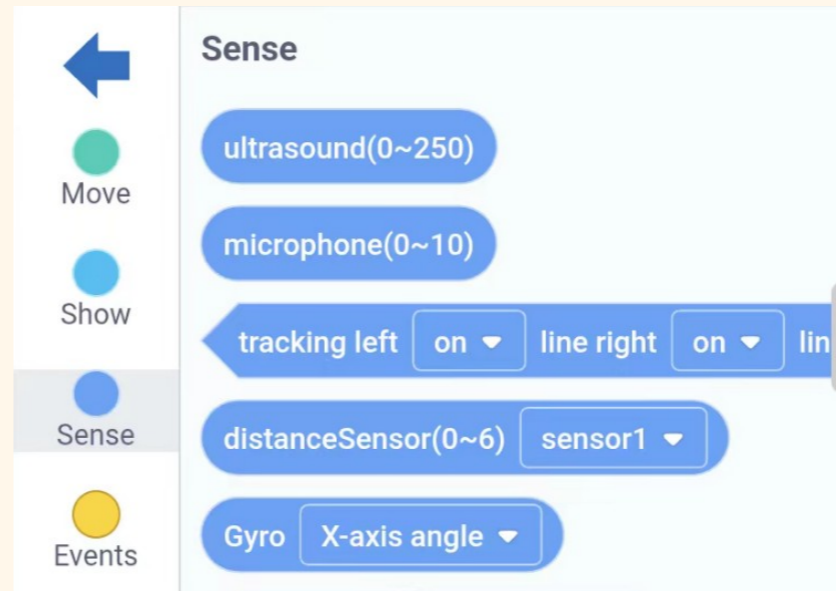


Find it in the "Operators"

## 2. Learn new modules.



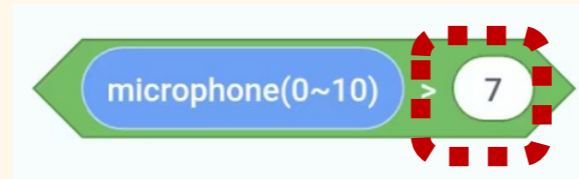
Receive volume



Find it in the "Sense"

## 2. Conditions for the dinosaur to move forward.

1. How many conditions are there for the dinosaur to move forward?

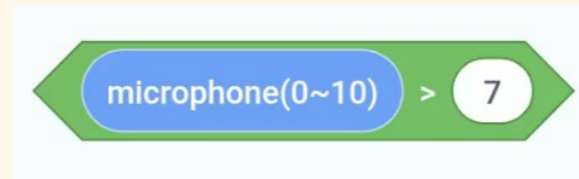


How do the values depend on the conditions?

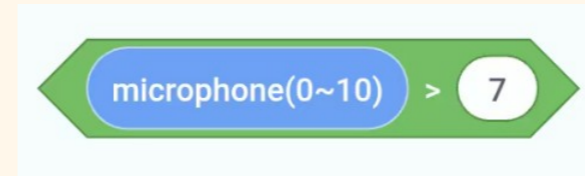
2. How many conditions need to be met for the dinosaur to move forward?



Or

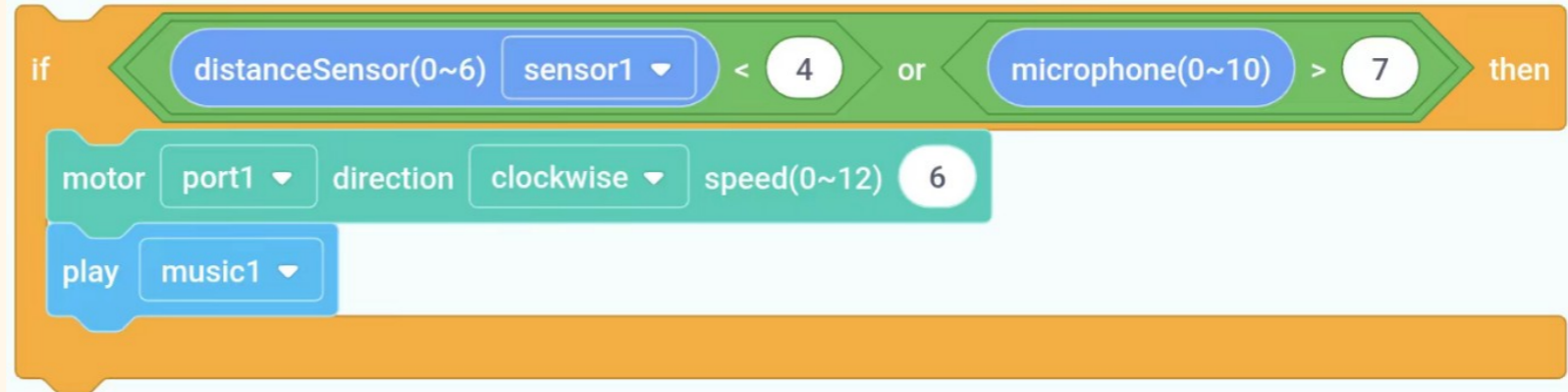


3. How to write a condition?



## 2. Let's programming!

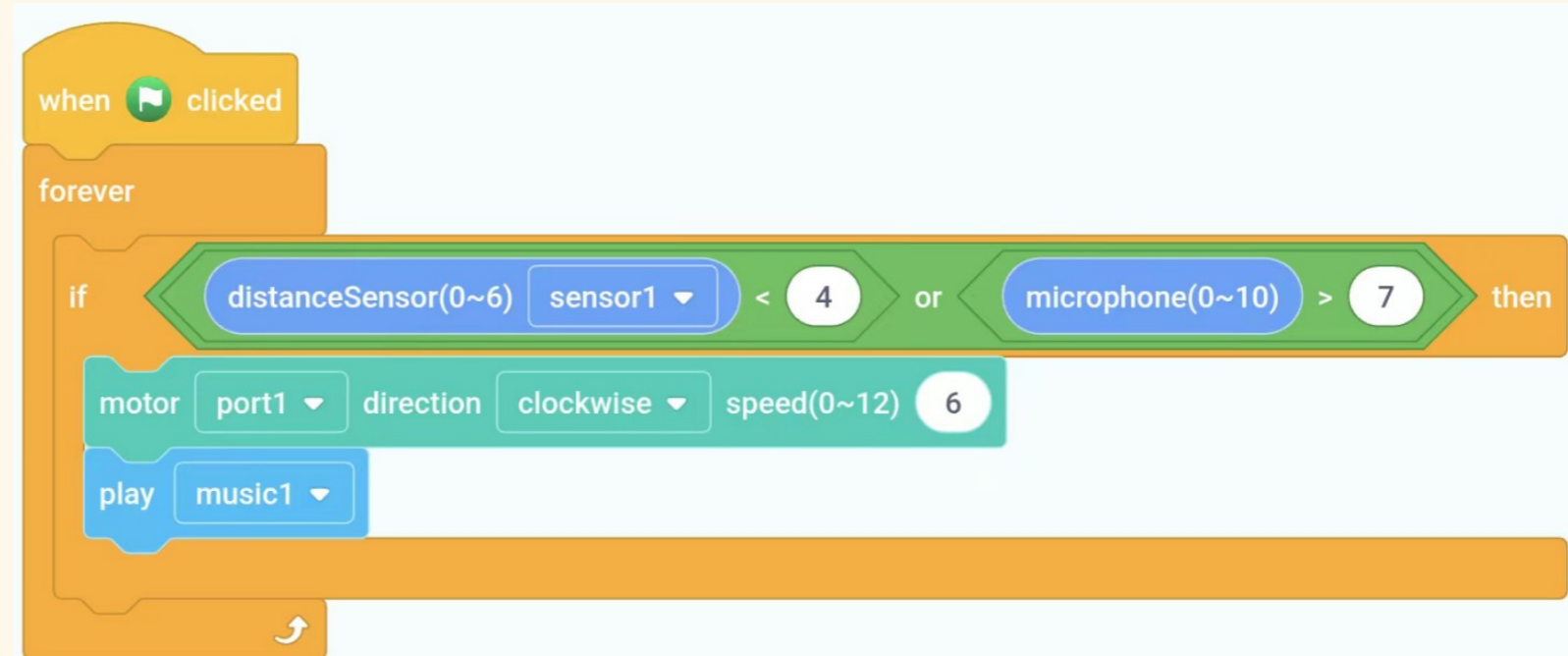
1. Does the dinosaur move forward when it hears a sound or sees a hand wave?



```
if distanceSensor(0~6) sensor1 < 4 or microphone(0~10) > 7 then
  motor port1 direction clockwise speed(0~12) 6
  play music1
```

The code block is a single 'if-then' block. The 'if' block is orange and contains two conditions: 'distanceSensor(0~6) sensor1 < 4' and 'microphone(0~10) > 7', connected by an 'or' operator. The 'then' block contains two actions: 'motor port1 direction clockwise speed(0~12) 6' and 'play music1'.

2. Don't forget to add a loop!

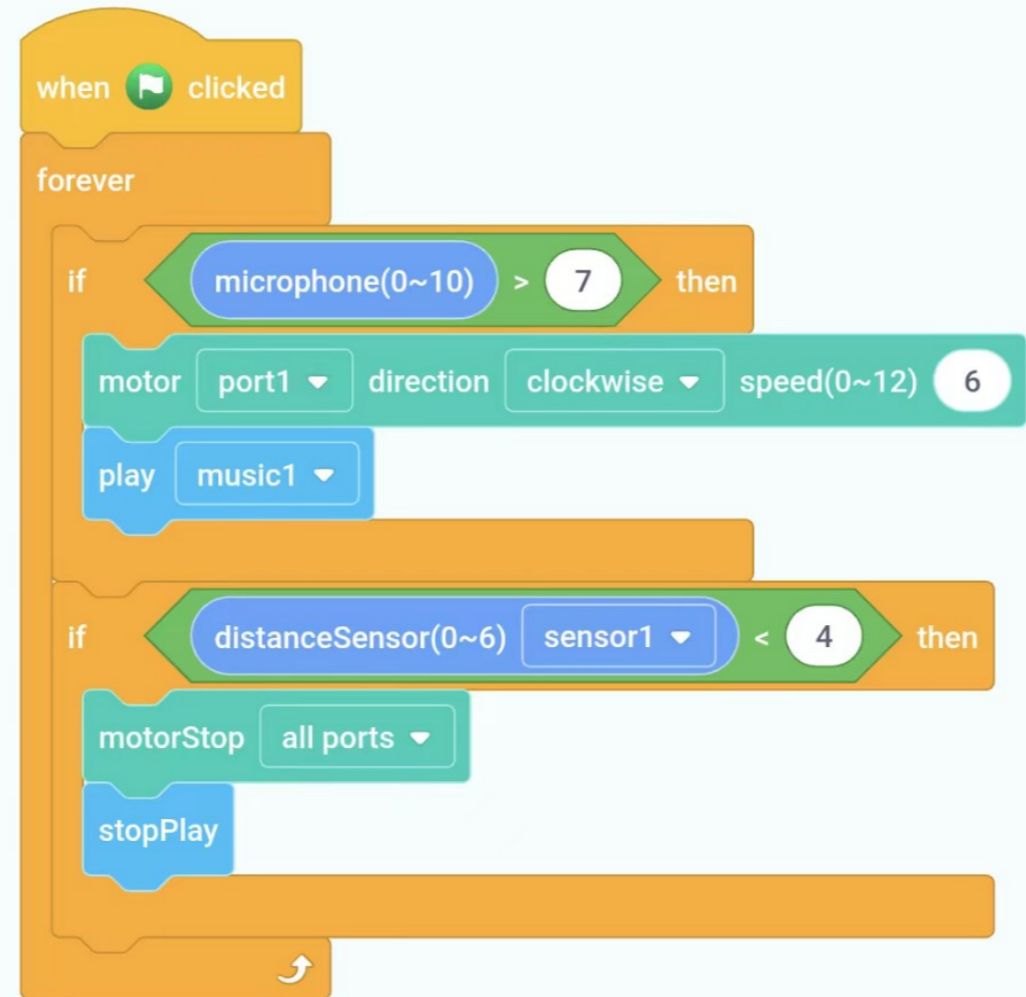


```
when clicked
  forever
    if distanceSensor(0~6) sensor1 < 4 or microphone(0~10) > 7 then
      motor port1 direction clockwise speed(0~12) 6
      play music1
```

The code block starts with a 'when clicked' block. Below it is a 'forever' loop block. Inside the loop is an 'if-then' block with the same conditions and actions as the first code block: 'if distanceSensor(0~6) sensor1 < 4 or microphone(0~10) > 7 then' followed by 'motor port1 direction clockwise speed(0~12) 6' and 'play music1'.

# 1. Have a try.

**Task 1: Combine the scripts you have learned! Make the dinosaur move forward and play music when it hears its name, and stop moving and pause the music when it detects an obstacle.**



```
when clicked clicked
forever
  if microphone(0~10) > 7 then
    motor port1 direction clockwise speed(0~12) 6
    play music1
  if distanceSensor(0~6) sensor1 < 4 then
    motorStop all ports
    stopPlay
```

The image shows a Scratch script for a robot. It starts with a 'when clicked' event block. A 'forever' loop contains two conditional blocks. The first 'if' block checks if the microphone volume (0~10) is greater than 7. If true, it sets the motor to port 1, clockwise direction, and speed 6, then plays music 1. The second 'if' block checks if the distance sensor (0~6) for sensor 1 is less than 4. If true, it stops the motor on all ports and stops playing music.



## Consolidate and extend

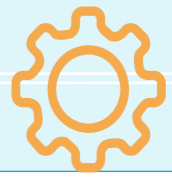
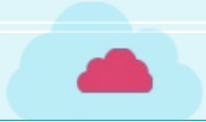
**Q1 :** Alex programmed the dinosaur, but it starts moving forward even before detecting an obstacle or hearing its name. Why is this happening?

```
when clicked
  forever
    if distanceSensor(0~6) sensor1 < 4 or microphone(0~10) < 7 then
      motor port1 direction clockwise speed(0~12) 6
      stopPlay
```

**A1 :** The reason is that the microphone's maximum value is 10, but the condition was set to 'less than 7.' This makes the T-Rex move forward even when the sound level is below 7.



Q &  
A



# Knowledge Review

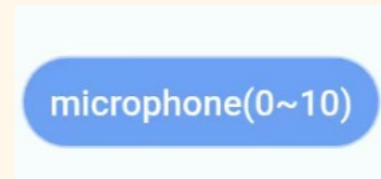


(1)

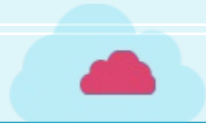


Meet one of the specific conditions.

(2)



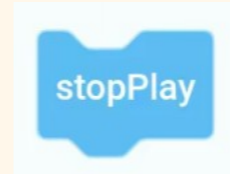
Receive volume



# Knowledge Review

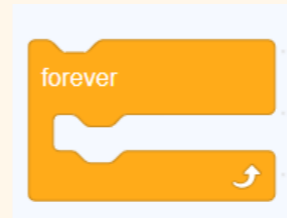


(3)



Stop the music.

(4)



Keep repeating the script.

Alex programmed the dinosaur, but the dinosaur doesn't move when it sees a hand gesture. Why is this happening? ( )

```
when clicked
  forever
    if distanceSensor(0~6) sensor1 < 4 and microphone(0~10) > 7 then
      motor port1 direction clockwise speed(0~12) 6
      stopPlay
```

- A** The program is wrong.      **B** The microphone's sensitivity is set too high.
- C** The conditional statement uses 'and'.      **D** The motor was set in the wrong direction.





Answer

C

:

Analysis It's because the wrong conditional script was used.

:

```
when clicked
  forever
    if distanceSensor(0~6) sensor1 < 4 or microphone(0~10) > 7 then
      motor port1 direction clockwise speed(0~12) 6
      stopPlay
```





**Talk**





**THANKS**

