06.Bee

1.Introduction

Bees appear when spring comes.

During spring, flowers bloom and the bees begin to collect nectar and pollen to make honey.

Bees work three seasons a year, spring, summer and autumn. They rest in winter.



1.Introduction

Honeybees live in colonies which usually consist of queen bees, worker bees and drones.

Bees work very hard to get food. They can collect nectar from up to thousands of flowers in a day.

At the same time, bees complete the pollination task for fruit trees. They are an important medium of crop pollination.



1.Introduction



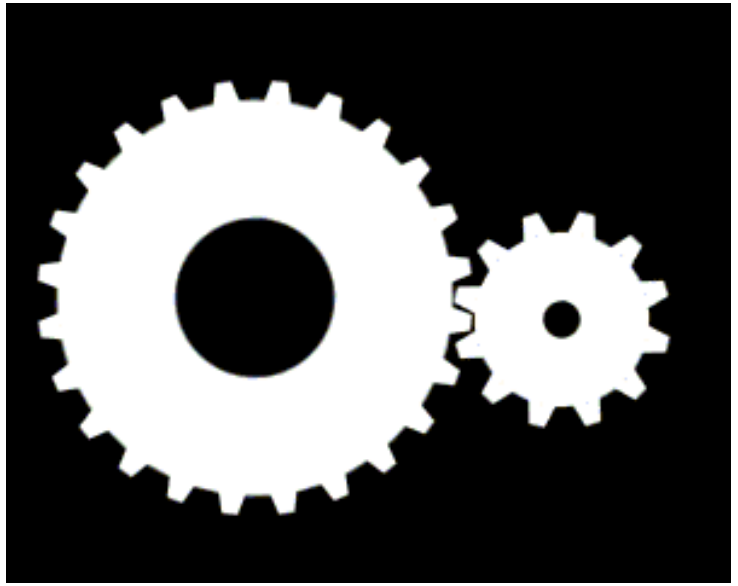
The little bee robot collect honey, which is composed of bees and flowers.

How do you slow the bee down so it can stay on top of the flower longer?

2.Exploration

Gear transmission refers to the gear transmission movement and power device, it is the most widely used in modern equipment of a mechanical transmission mode.

When the smaller gear acts as the driving wheel to drive the big gear, the speed of the big gear will decrease and the torque will increase.



2.Exploration

How did the robot know the bees were on the flowers?

We can use infrared sensors, which can detect obstacles ahead.



3.Construction



3.Construction



3.Construction



3.Construction



3.Construction

Connect the motor to port A and the infrared sensor to port 1.

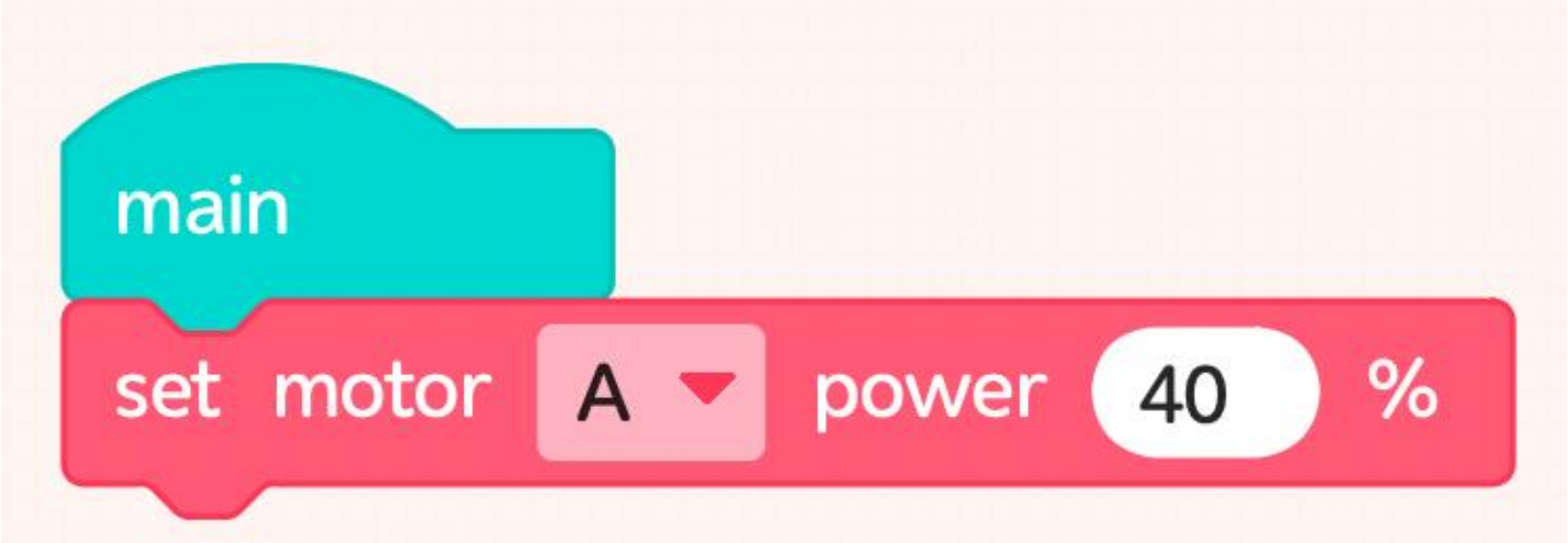


4.Coding

Let the bees fly in the air.



4.Coding

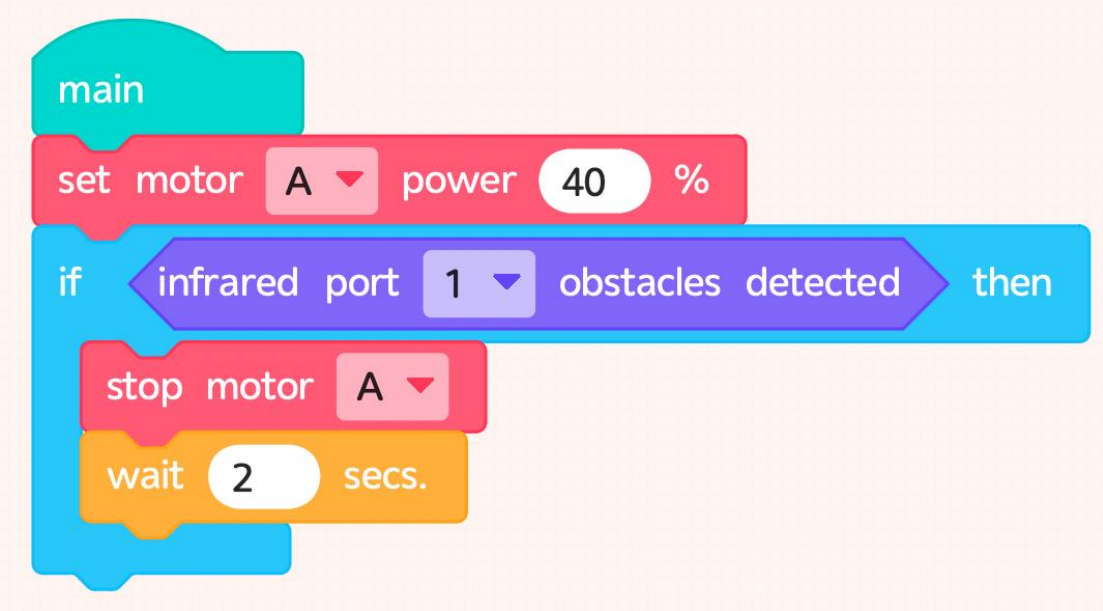


4.Coding

Use the “if” module to determine whether the bee robot has landed on the flower.



4.Coding

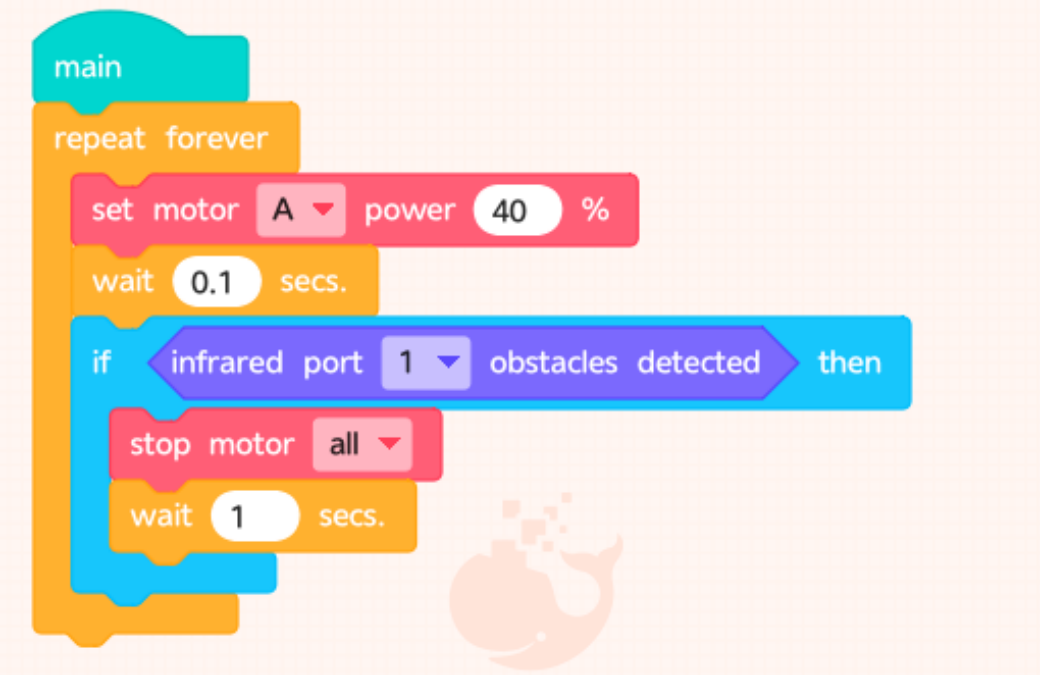

main
set motor A power 40 %
if infrared port 1 obstacles detected then
stop motor A
wait 2 secs.

4.Coding

How do you make a bee stay on a flower for two seconds every time it flies?



4.Coding


main
repeat forever
set motor A power 40 %
wait 0.1 secs.
if infrared port 1 obstacles detected then
stop motor all
wait 1 secs.

5.Evaluation

What gear structure does the bee robot use?

Gear reduction structure。



6.Challenge

Why do we need to add “wait 0.1 seconds” before logic module?

Remove the above coding and observe the outcomes.

7.Presentation



Please add some decorations next to your flower to make it look more beautiful and presentable.