Logic

Space

Coding

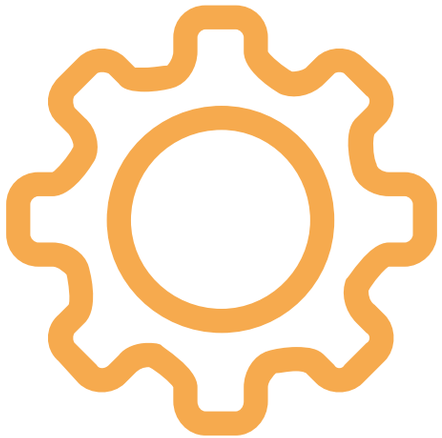
Focus

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.



Color Sorting Machine 01

Course Goals

Thinkidea

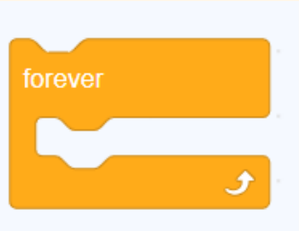
1. Learning goals
2. Project Discussion
3. Logic Programming
4. Have a try
5. Consolidate and extend

1

1. Build a sorting machine and let it recognize different colors.
2. Consolidate the modules like “**if...then...**” 、 “**Operators <**” 、 “**Sense**”.
3. Learn new modules “**light**” 、 “**motor move**”.
4. Comprehensively apply the learned modules to complete programming projects and expand.

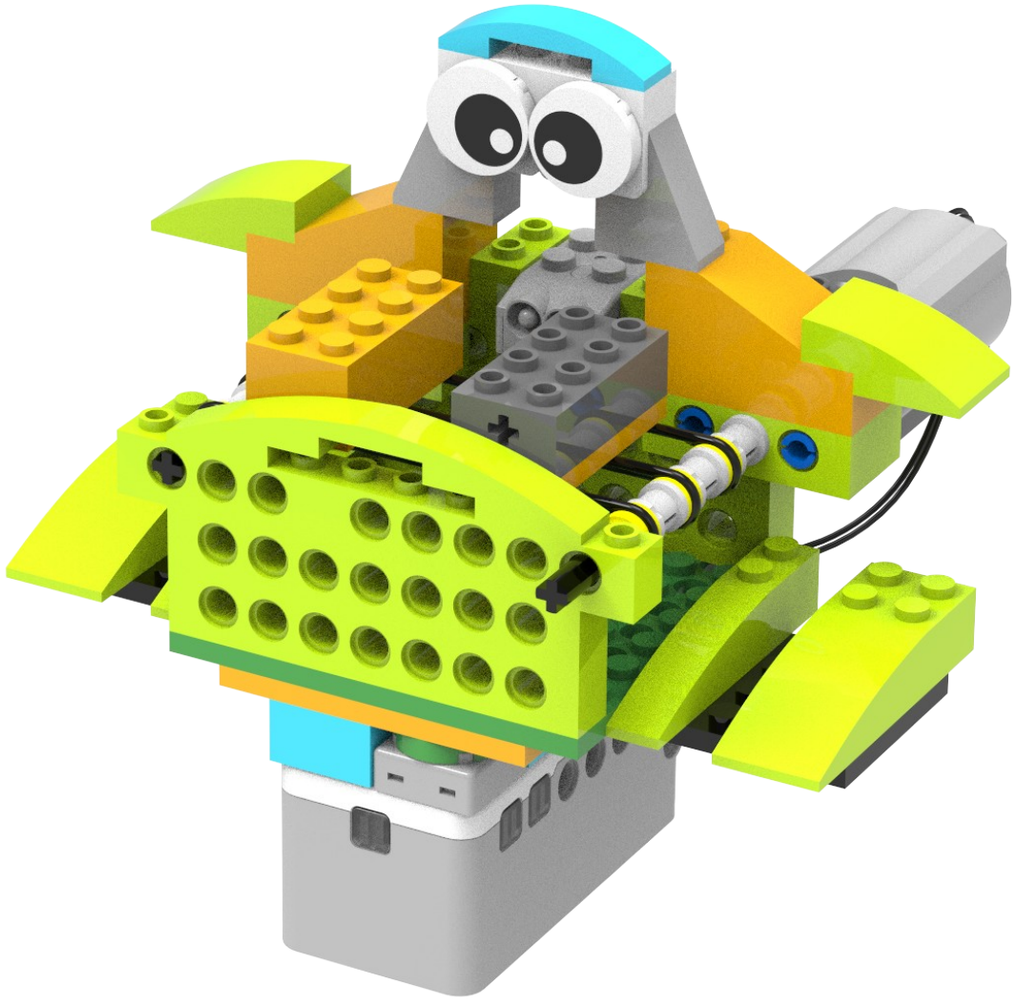
1

Consolidate modules:



New modules:

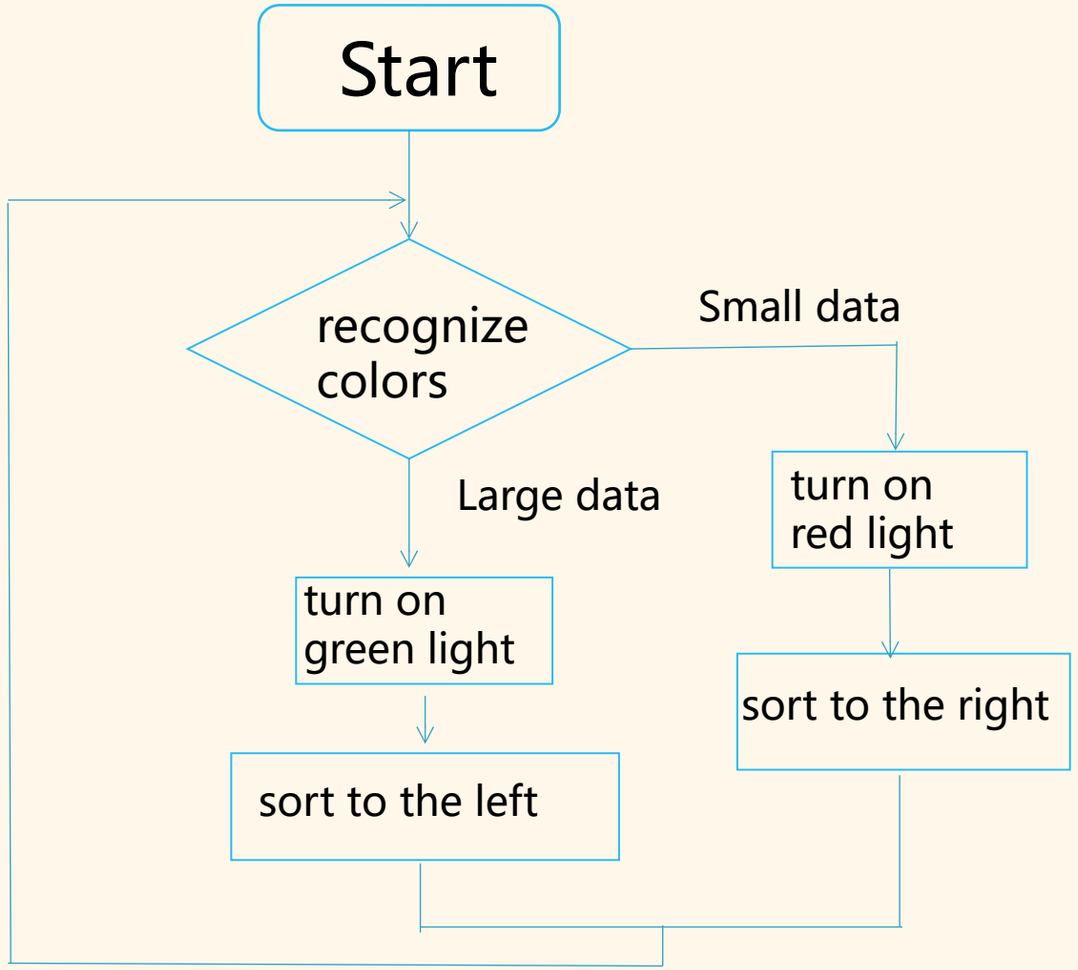
2



Project Discussion

1.The sorting machine will sort items by color.
2.Light-colored items will turn on the green light.
3.Sort to the left.
4.Dark-colored items will turn on the red light.
5.Sort to the right.

1.Programming logic



3

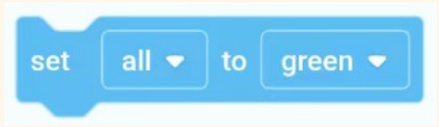
1.Programming logic

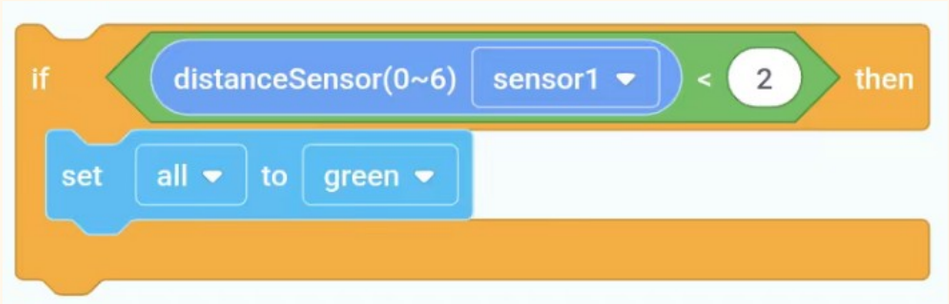
1.Recognize the color and write down the value!

2.Start recognizing.

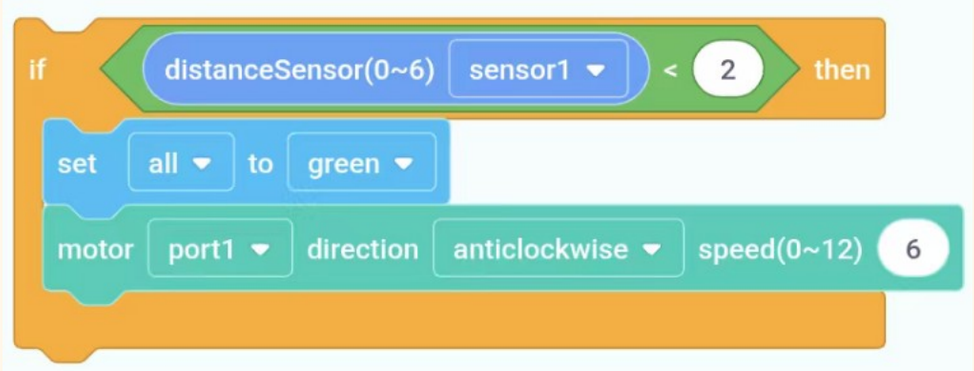
1.Programming logic

1.Light-colored items will turn on the green light.



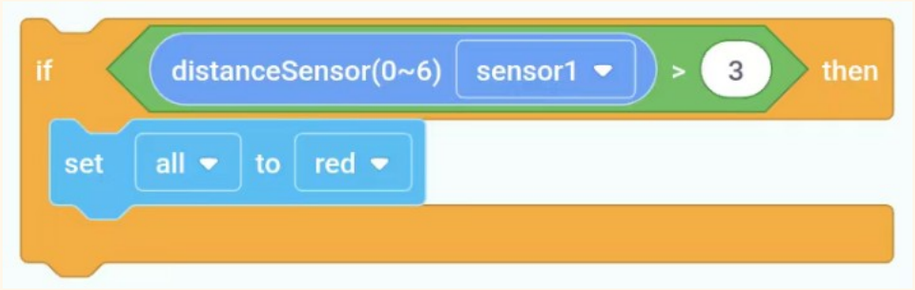


2.Light colors will turn on the green light and sort to the left.

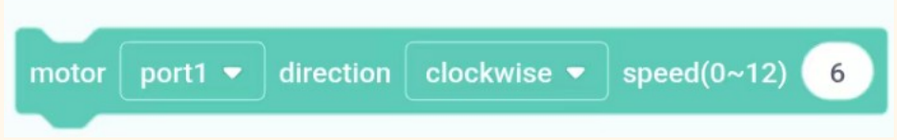


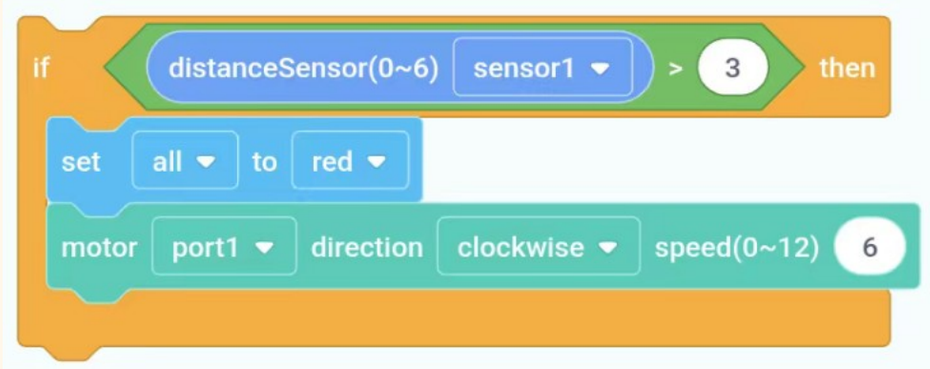
1.Programming logic

1.Dark-colored items will turn on the red light.



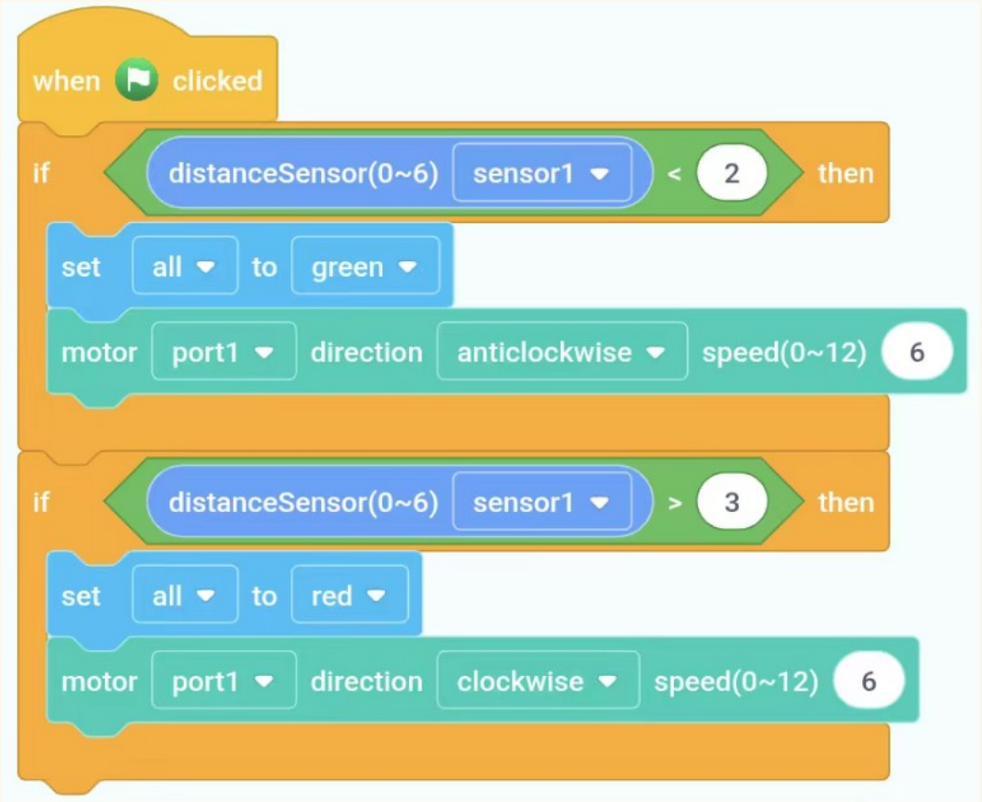
2.Dark colors will turn on the red light and sort to the right.

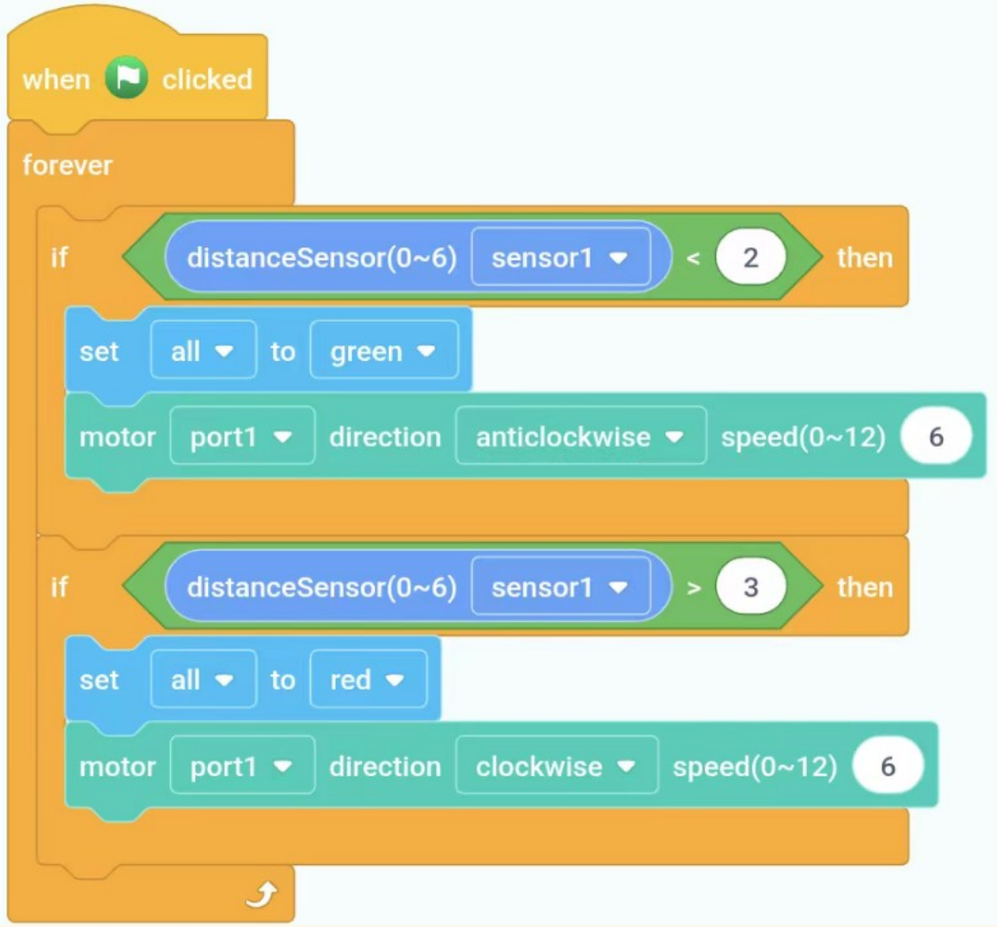




1.Programming logic

1.Programming completed.

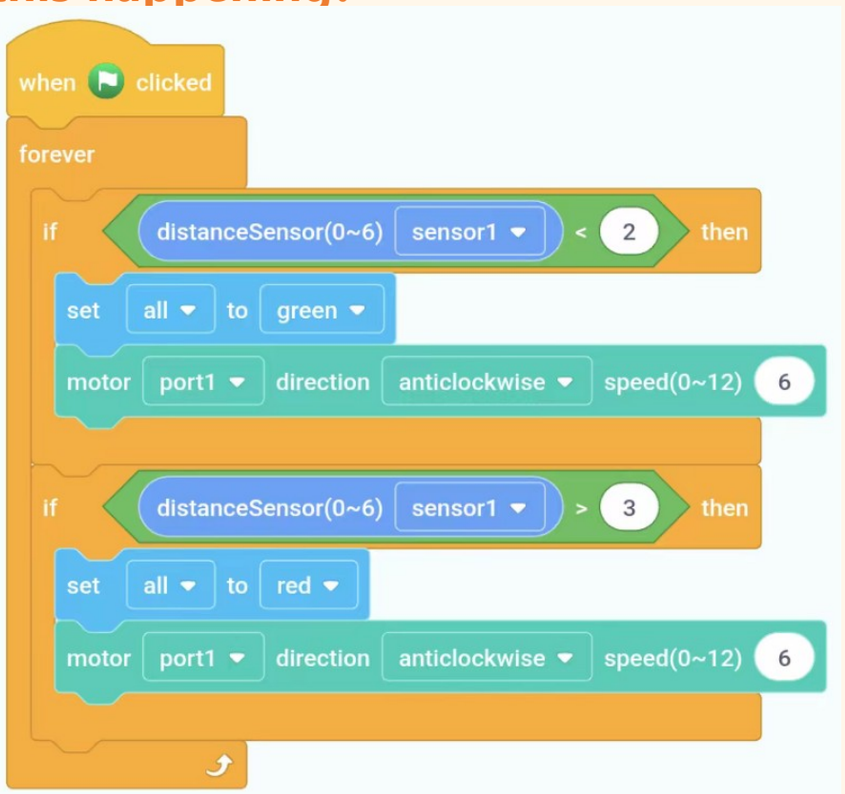




Consolidate and extend

Q & A

Q1 : Alex wrote a program for the sorting machine, but it keeps sorting everything in the same direction. Why is this happening?



A1 : The motor direction was set incorrectly, so the machine goes in the same direction regardless of whether the color is light or dark.

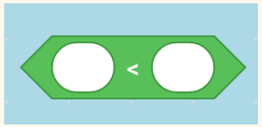
5

Knowledge Review

(1)

The “if…then…” command is a commonly used logic block, and it is usually used together with a repeat loop.

(2)



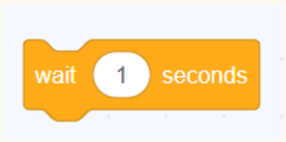
The compare block is used to check which of the two values is greater or smaller.

5

Knowledge Review

(3) 

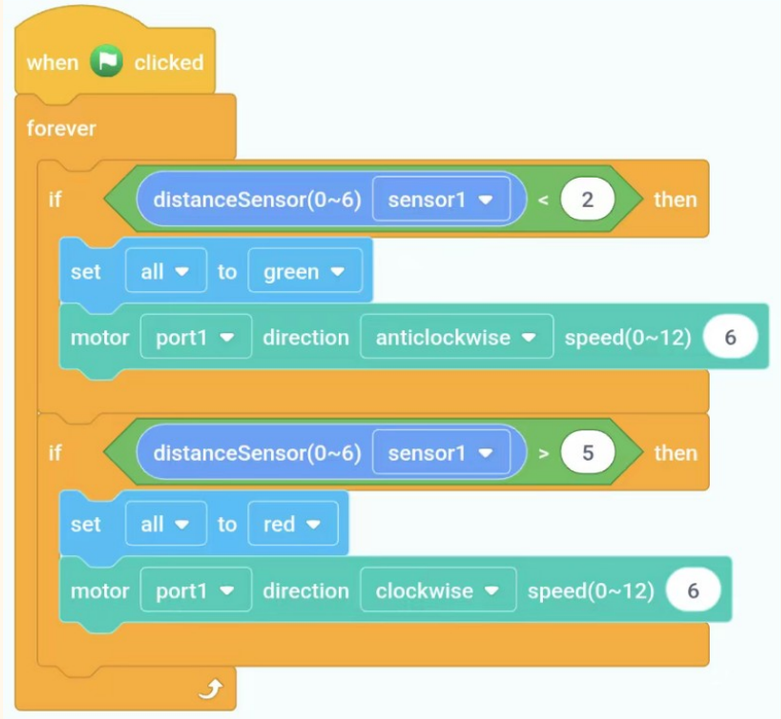
The distance sensor module.

(4) 

The program runs in sequence, with a waiting interval between the two scripts.

5

Alex wrote a program for the sorting machine, but it didn’ t separate the colors correctly. Why did this happen? （ ）

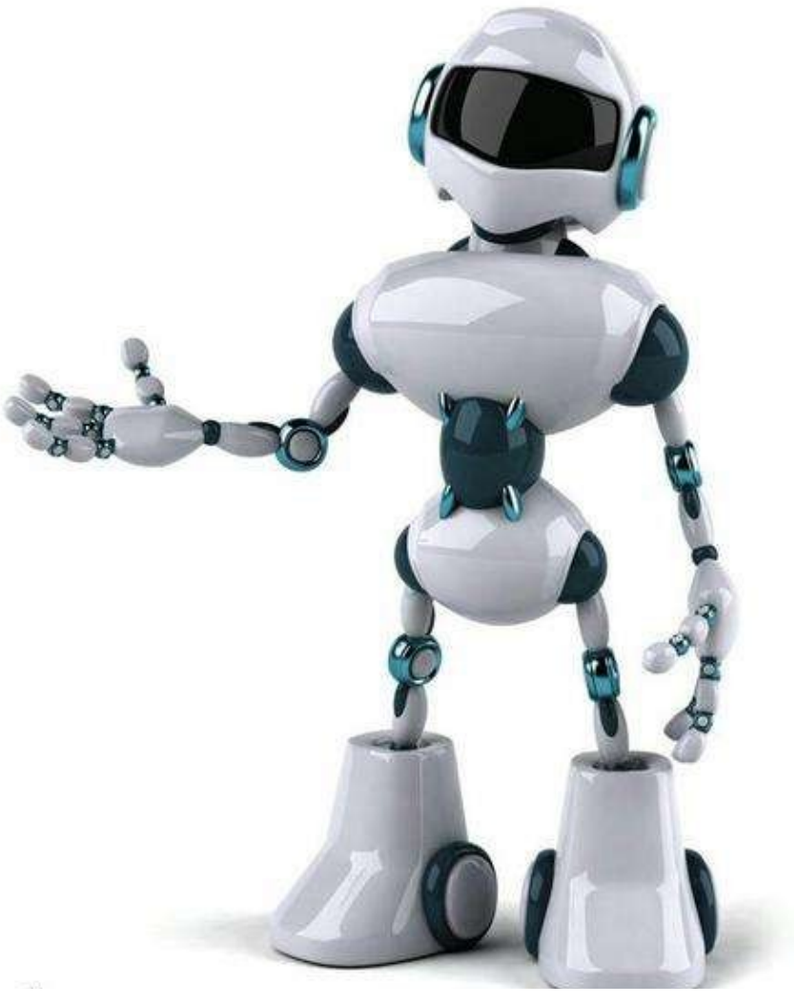


A The motor speed is not fast enough.

B Because the repeat was terminated.

C Because there is no repeat module.

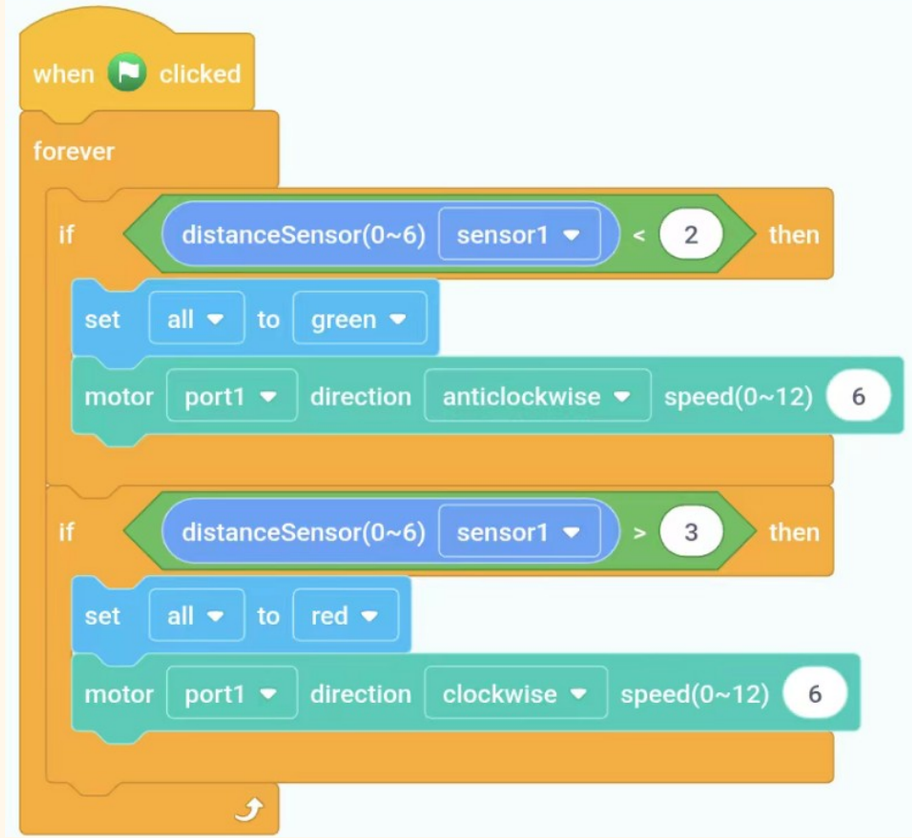
D Because the distance sensor value was set too high.

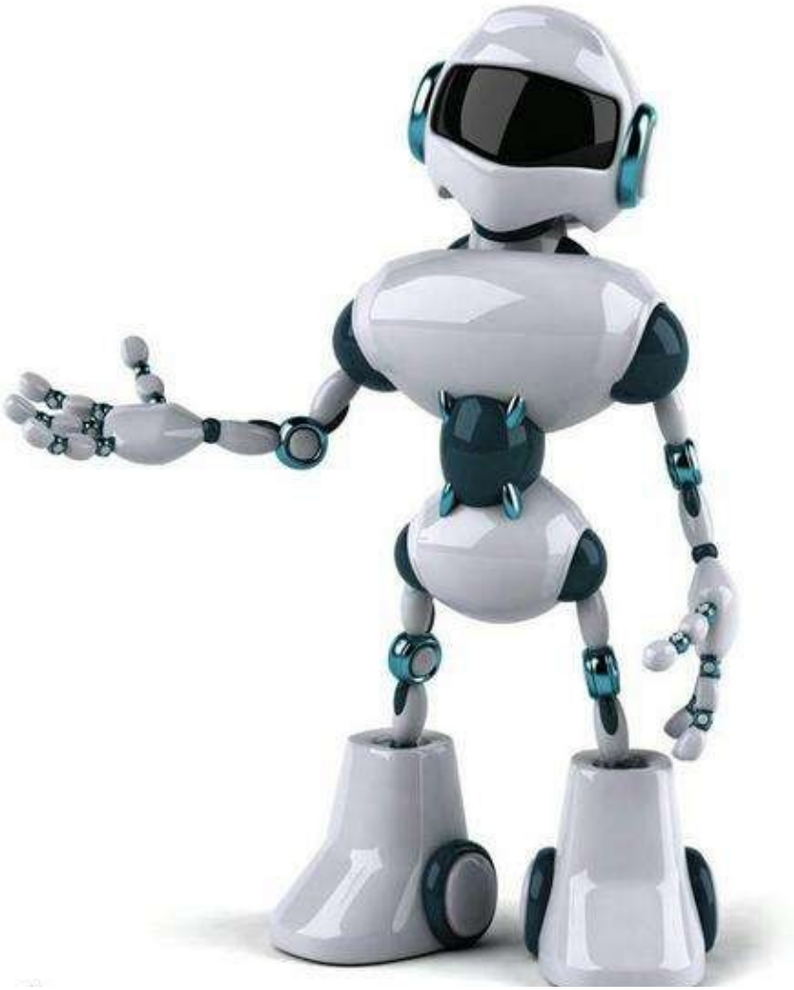


5

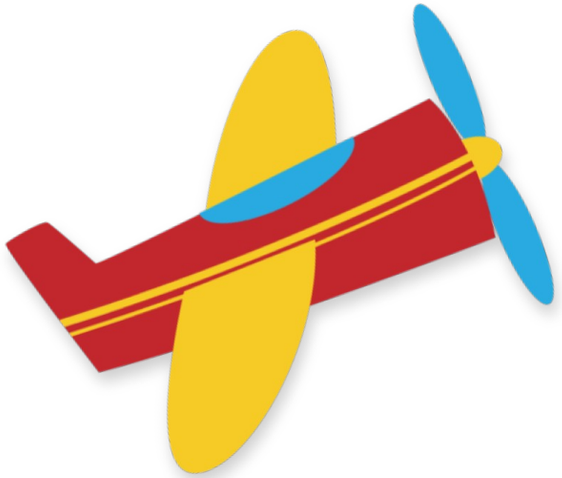
Answer : **D**

Analysis : **Because the distance sensor value was set too high.**





Talk



THANKS