

Hamster Robot Traffic Sensor



By Teddy Chun



Main Goal

**We are going to code the hamster to
move forward using the bottom right
and left sensors
and avoid hitting the objects in front of it.**

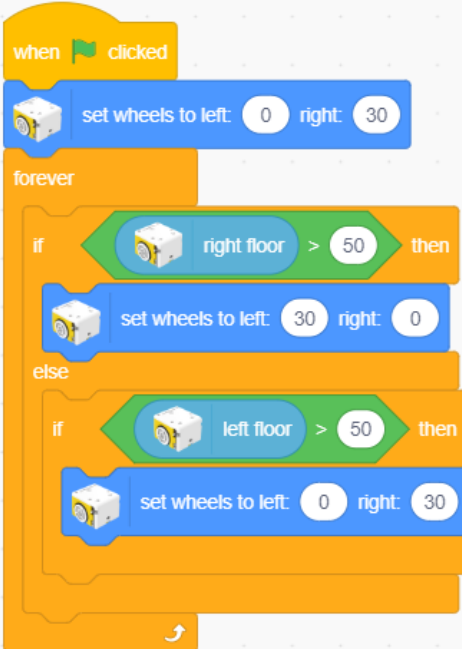
Blocks Used For The Loop

The image displays a collection of Scratch blocks used for a loop. The blocks are arranged on a light gray grid background. The blocks include:

- when clicked**: A yellow block with a green flag icon and the text "when clicked".
- hand found?**: A blue arrow-shaped sensor block with a robot head icon and the text "hand found?".
- set wheels to left: 0 right: 30**: A blue block with a robot head icon and two input fields containing the numbers "0" and "30".
- if-then-else**: An orange block with "if" and "then" labels on the top and "else" on the bottom.
- > 50**: A green arrow-shaped comparison block with a white circle and the number "50".
- left floor**: A blue block with a robot head icon and the text "left floor".
- right floor**: A blue block with a robot head icon and the text "right floor".
- forever**: An orange block with a white arrow icon on the right side.
- set wheels to left: 30 right: 0**: A blue block with a robot head icon and two input fields containing the numbers "30" and "0".
- set wheels to left: 0 right: 30**: A blue block with a robot head icon and two input fields containing the numbers "0" and "30".

Moving Forward Code

First, we are going to code how to make the hamster move forward. The hamster will use both its bottom sensors when moving forward. When the hamster's right bottom sensor senses the white line, the hamster will turn right. When the hamster's left bottom sensor senses the white line, the hamster will turn left.

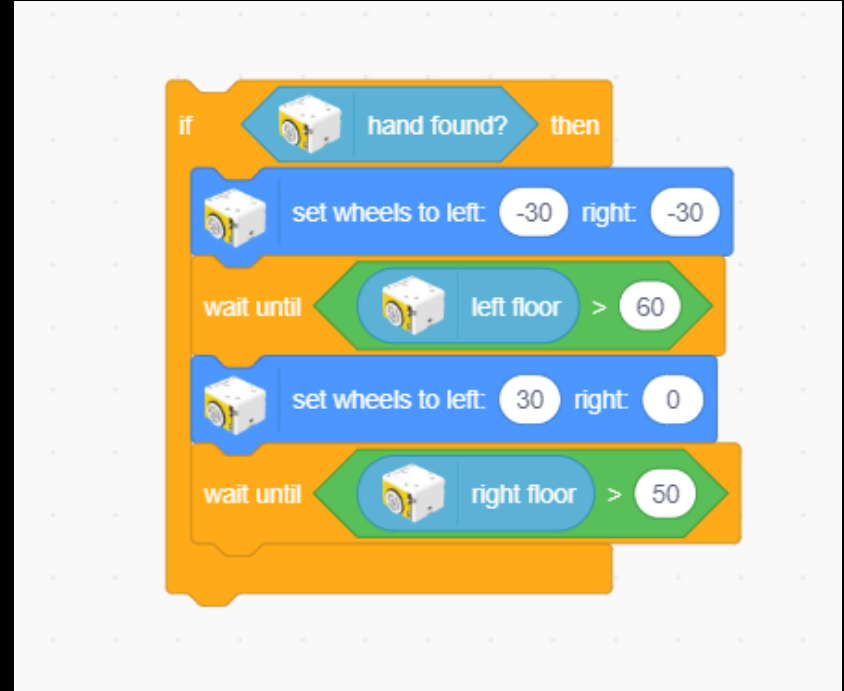


```
when green flag clicked
  set wheels to left: 0 right: 30
  forever loop
    if right floor > 50 then
      set wheels to left: 30 right: 0
    else
      if left floor > 50 then
        set wheels to left: 0 right: 30
```

The image shows a Scratch script for a hamster robot. It starts with a 'when green flag clicked' event block. This is followed by a 'set wheels to left: 0 right: 30' block. Below this is a 'forever' loop. Inside the loop, there is an 'if' block with the condition 'right floor > 50'. If true, it sets 'wheels to left: 30 right: 0'. If false, it goes to an 'else' block, which contains another 'if' block with the condition 'left floor > 50'. If true, it sets 'wheels to left: 0 right: 30'. The loop ends with a return arrow.

After Sensing An Object

After the hamster moves forward and senses an object, the hamster begins the next part of the code. The hamster backs up until the left bottom sensor senses the white line. Then the hamster turns right until the right bottom sensor senses the white line.



Completed Code

This is what the completed code looks like. The hamster should be turning left and right to move forward. Then as the hamster senses the object, the hamster will back up until it senses the white line and turn right until the right sensor senses the white line.

