e-book

Hamster Coding

Scratch 11

Written by ConceptOn

ROBOMATION

MAKE THINGS ALIVE

How to Use

This manual is designed for the educational utilization of the Hamster robot.

· Please use this manual as on-screen instructions when teaching the Hamster class.

· The contents are easy to understand. Just read them before the class.

· Worksheets can be downloaded from the Robomation website.

· This manual can be used to ensure the best lesson plan.

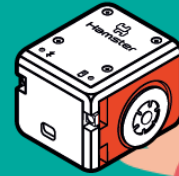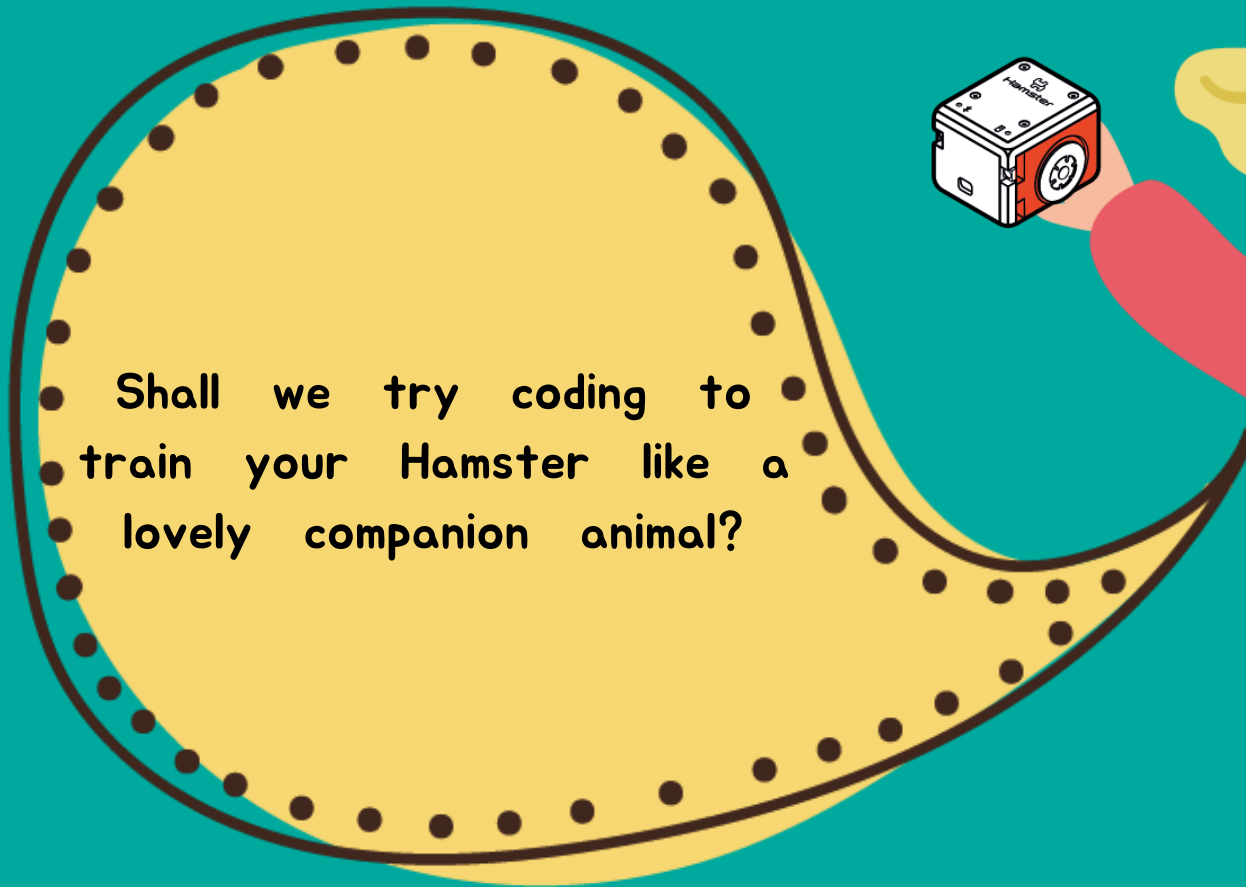· For more information, contact us at 7concepton@daum.net.

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Today's Activity

Division	Description	Time
Introduction	**Explore the problem.** Why not let your Hamster act like a companion animal that lives with people?	5min
Development	**Find a solution.** Let's code by selecting the conditions and movements on which your Hamster will act. **Solve the problem.** Let's command your Hamster to move according to a given mission.	30min
Conclusion	**Review today's activities.** Let's talk about what you have learned and enjoyed.	5min

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Shall we try coding to train your Hamster like a lovely companion animal?

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Get ready

First, let's find out what is needed for Hamster coding.

1 Hamster

2 Bluetooth Dongle

3 PC

4 Worksheet

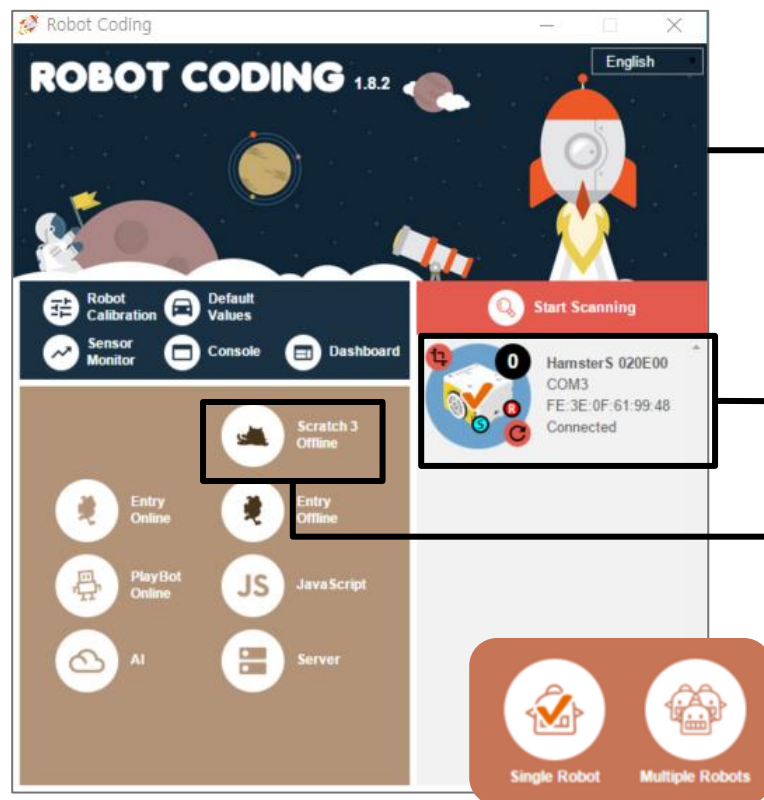5 Writing supplies (pen and paper)

6 Charging cable
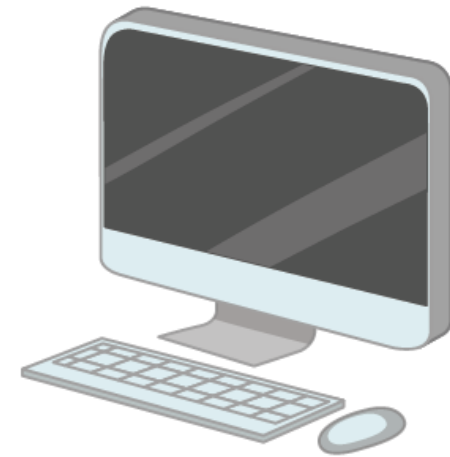
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Open the program

When opening the program, turn on Hamster and plug the Bluetooth Dongle into the USB port of your PC.

Open the program

1 Run the Robot Coding program.

2 Check if your Hamster robot is connected with the Bluetooth Dongle (through its LED light colors).

3 Click on Scratch 3 Offline.

4 Click on "Single Robot" and then "New File."

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She started talking and asking questions about PARO.

Let's talk about
what you think about this story!

Can humans share real companionship with robots?

What the old lady is holding in the picture is a robot.

This robot is said to comfort her when she feels lonely, getting all of her love.

출처 : https://youtu.be/2ZUn9qtG8ow

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Guess how?

Let your Hamster act on certain conditions.

If (I) **do something** → Hamster will bark!

Expression by Hamster

① Choose a condition and say it!

② If the condition is "True," choose Hamster's movement!

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Train your Hamster

Challenge 1

Let's code so that your Hamster acts on a given condition.

If (I) **do something** Hamster will~!

Expression by Hamster

If "hand find?" Hamster will rotate in place for 3 s.

If I approach Hamster,

🐾 Hamster will keep rotating in joy!

```
when 🚩 clicked
forever
  if [ 🔲 hand found? ] then
    set wheels to left: -30 right: 30
    wait 3 seconds
    🔲 stop
```

Train your Hamster

Challenge 2

Let's code so that your Hamster acts on a given condition.

If (I) **do something** Hamster will~!

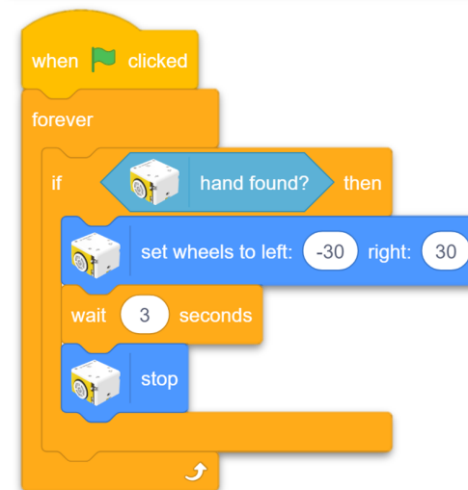**Expression by Hamster**

If Find-Hand, the LED lights will flicker in purple twice.

If I approach Hamster,

Hamster will keep flickering in joy!

```
when [flag] clicked
forever
  if < hand found? > then
    repeat 2
      set both led to purple
      wait 1 seconds
      clear both led
      wait 1 seconds
```

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Train your Hamster

Challenge 3

Let's code so that your Hamster acts on a given condition.
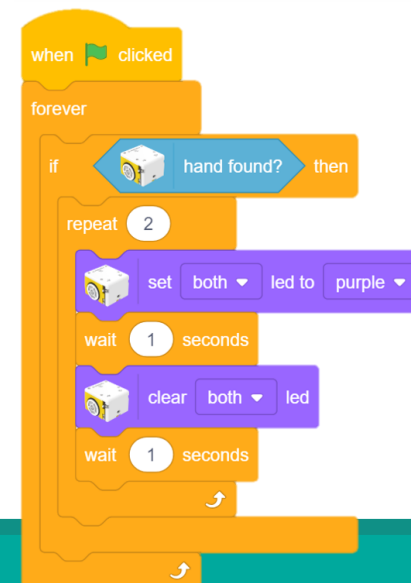
If (I) **do something** Hamster will~!

Expression by Hamster

Move until Find-Hand.

If I approach Hamster,

Hamster will stop moving!

```
when 🚩 clicked
forever
    repeat until [🤖 hand found?]
        [🤖 set wheels to left: -30 right: 30]
    [🤖 stop]
```

Train your Hamster

Challenge 4   Let's code so that your Hamster acts on a given condition.
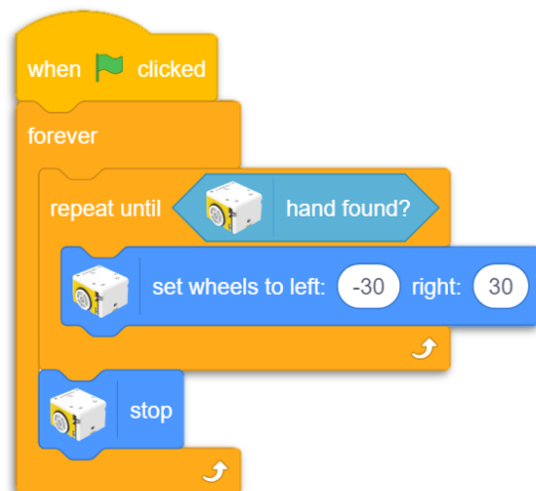
If (I) **do something** Hamster will~!

Expression by Hamster

If Find-Hand, set the buzzer sound as 000.

If I approach Hamster,

Hamster will scream in surprise!

```
when 🚩 clicked
forever
  if        hand found?   then
    set buzzer to  2000
  else
    clear sound
```

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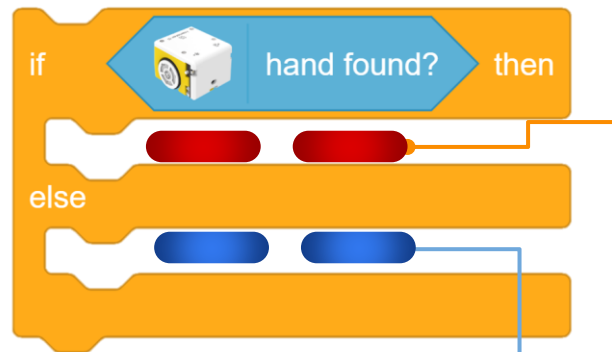
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Guess how?

Let's think about the code after setting when the condition is "True" and when it is False."

Let's set when the condition is "True" and when it's "False" and then operate your Hamster.

if hand found? then

Turn on red LED lights!
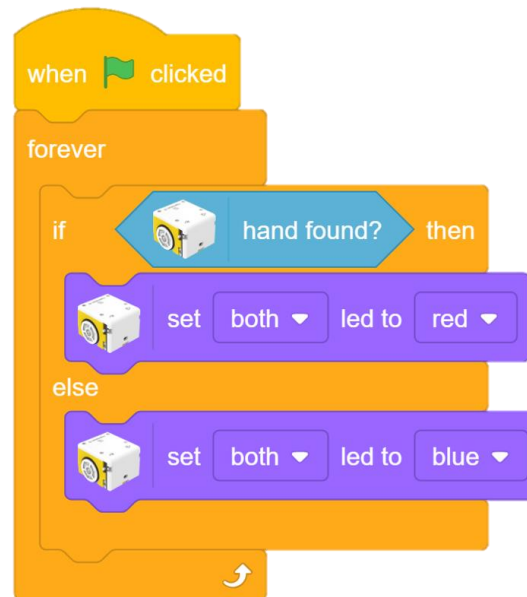
else

Turn on blue LED lights!

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Challenge 5

Let's think about the code after setting when the condition is "True" and when it is False."

Did your Hamster work as expected?

```
when [flag] clicked
forever
  if < hand found? > then
    set [both v] led to [red v]
  else
    set [both v] led to [blue v]
```

🐾 Turn on red LED lights!

🐾 Turn on blue LED lights!

Train your Hamster

Challenge 6

Set conditions as you think before coding.

Write down your ideas with writing supplies.

If Hamster finds your hand, Else,

①

②

③

④

If Find-Hand
Do something!
Else
Do something!

Set different conditions before coding!

Let's Review

😛 What did you learn today?

😅 Did you encounter any difficulties?

😍 What interested you the most about Hamster robot?

See   you again!

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