e-book

Hamster Coding

Scratch 14

Written by ConceptOn

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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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Hamster Coding

Let's get started with Hamster coding with the Scratch program!

The use of the Scratch programs will make coding more interesting!

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Today's Activity

Division	Description	Time
Introduction	**Explore the problem.** Why not try to control your Hamster by pressing arrow keys?	5min
Development	**Find a solution.** Let's code by setting arrow keys to control the movements. **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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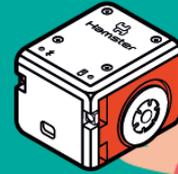
Shall we try coding so that your Hamster can move as you control?

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
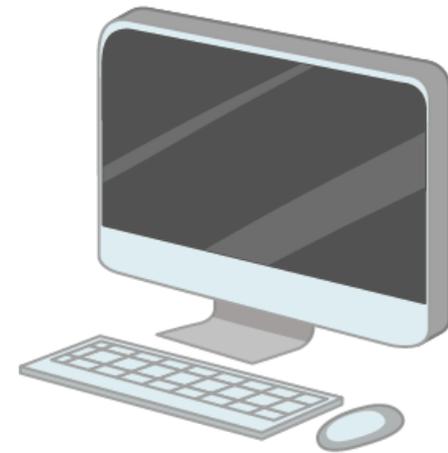
Open the program

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."

Let's think

Let's think and talk about how to make your Hamster move when you press a set key.
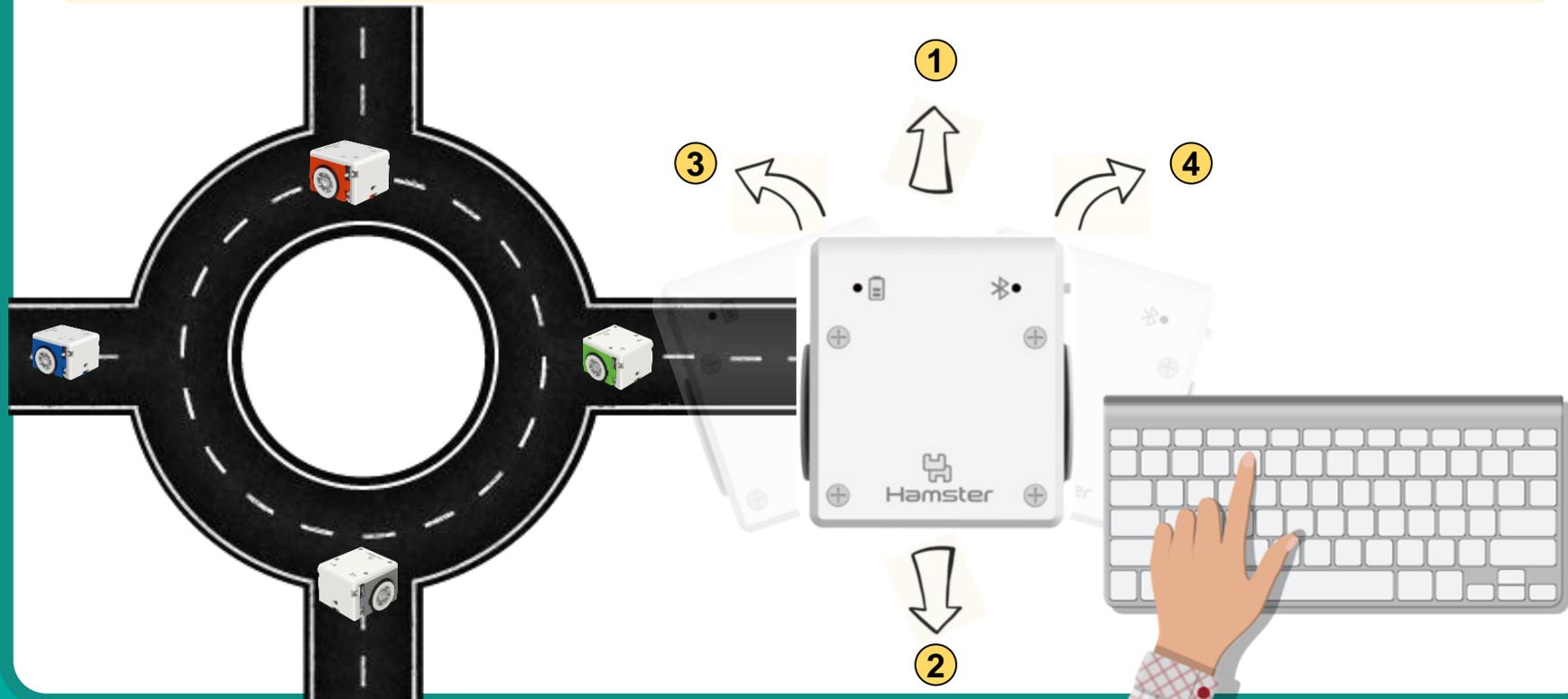
Exercise 1

Let's write the code that lets your Hamster move when you press a set key.
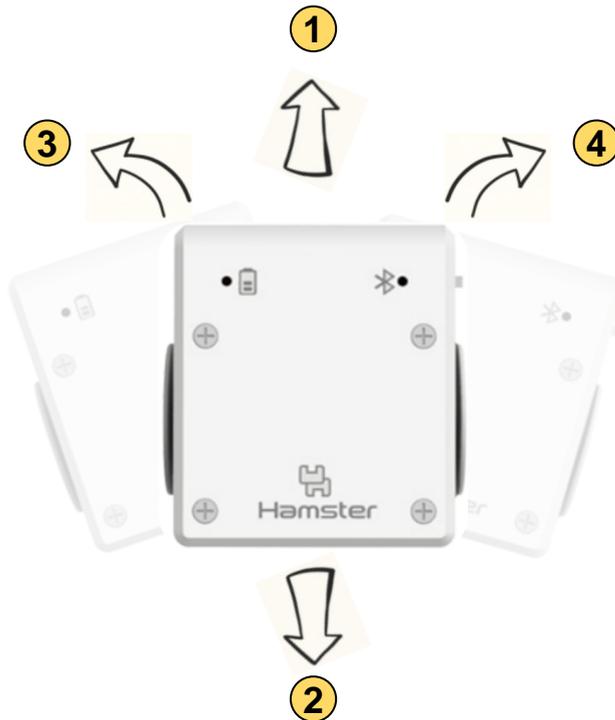
Code hints

when [q ▼] key pressed

set wheels to left: 30 right: 30

wait 2 seconds

stop

Try coding so that Hamster can act when a certain event takes place.

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Exercise 2

Let's write the code that lets your Hamster move while you press and hold a set key.

① ③ ④ ②
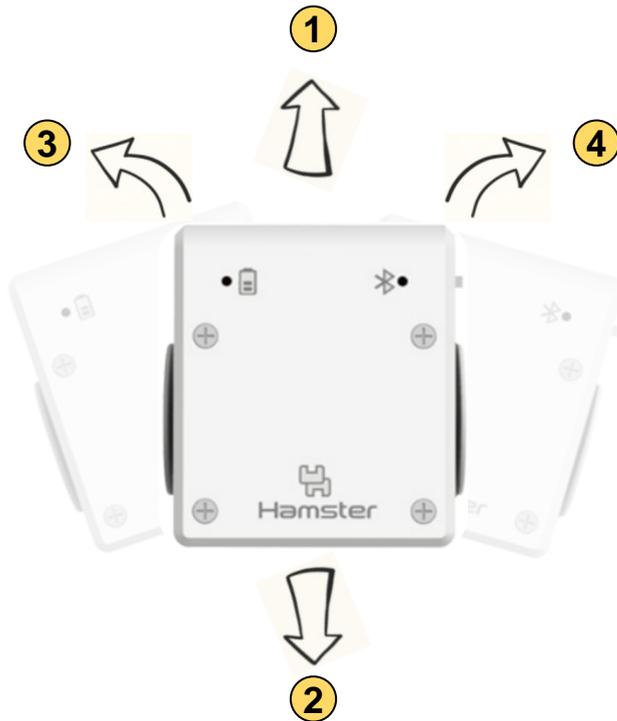
Code hints

```
when [ q ▼ ] key pressed
```

```
if ⬡ then

```

```
key [ q ▼ ] pressed?
```

```
stop
```

Try coding so that Hamster can act under a certain condition.

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Follow the driven course

Challenge 1 Let's practice driving while following the driving course.
Preparations: Hamster, Worksheet

Rotate here

Make a beep sound when arriving

Start⊢→

←Arrive
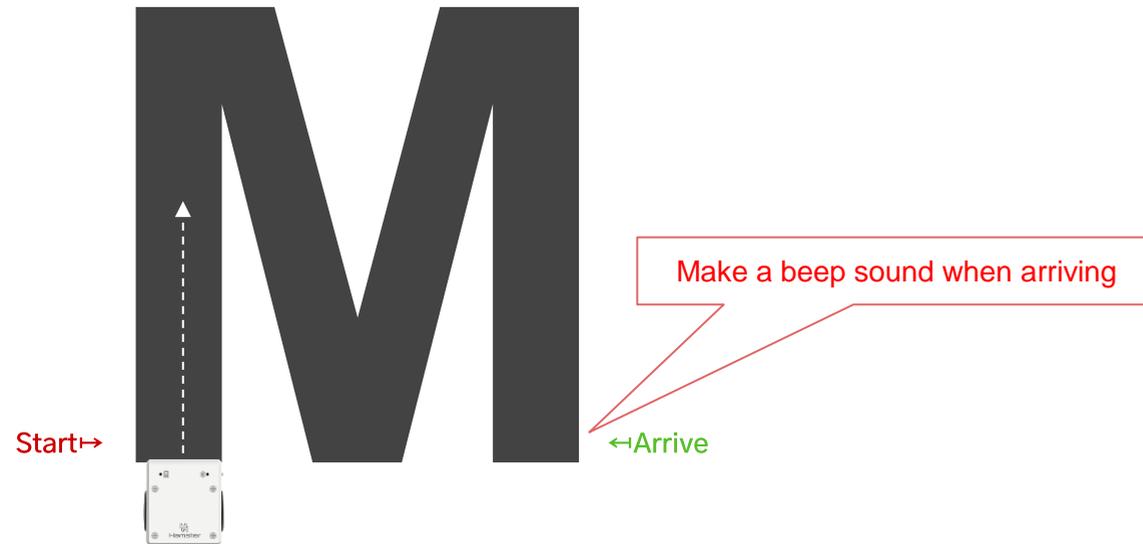
1 M-shaped course

Follow the driven course

Challenge 2 Let's practice driving while following the driving course.

Preparations: Hamster, Worksheet

↤ Arrive

Add sound

Make a beep sound when arriving

Start↦

Pay attention to direction control at the curve

2 S–shaped course
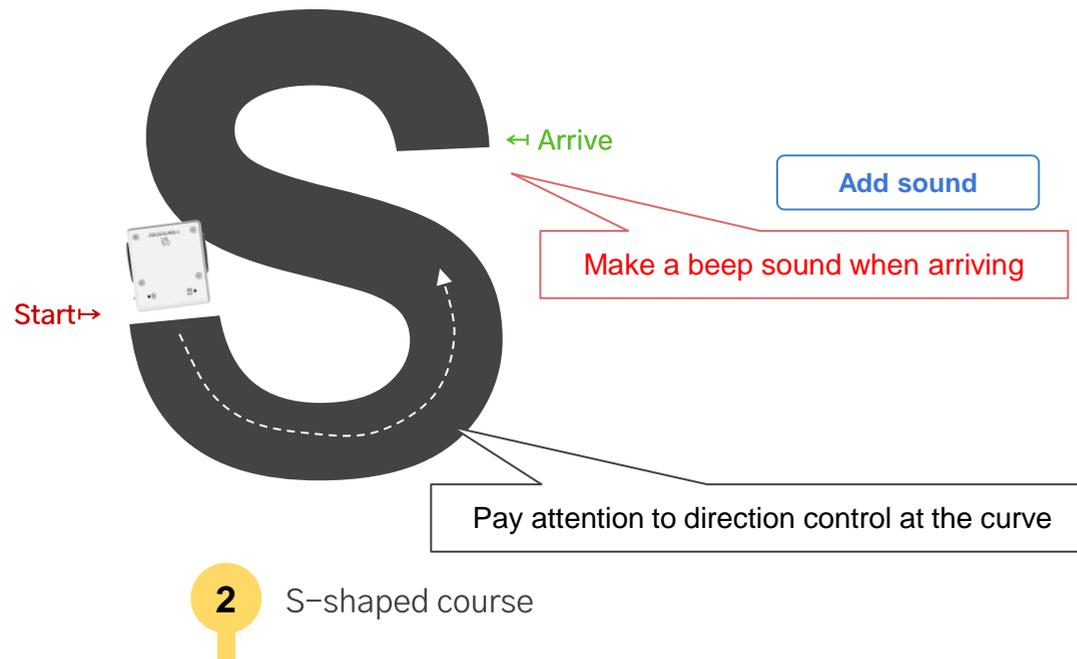
Follow the driven course

Challenge 3 Let's practice driving while following the driving course.
Preparations: Hamster, Worksheet

Rotate in this section

① ←Arrive ②

Make any sounds when arriving

Add sound

Start↦

③ T–shaped course

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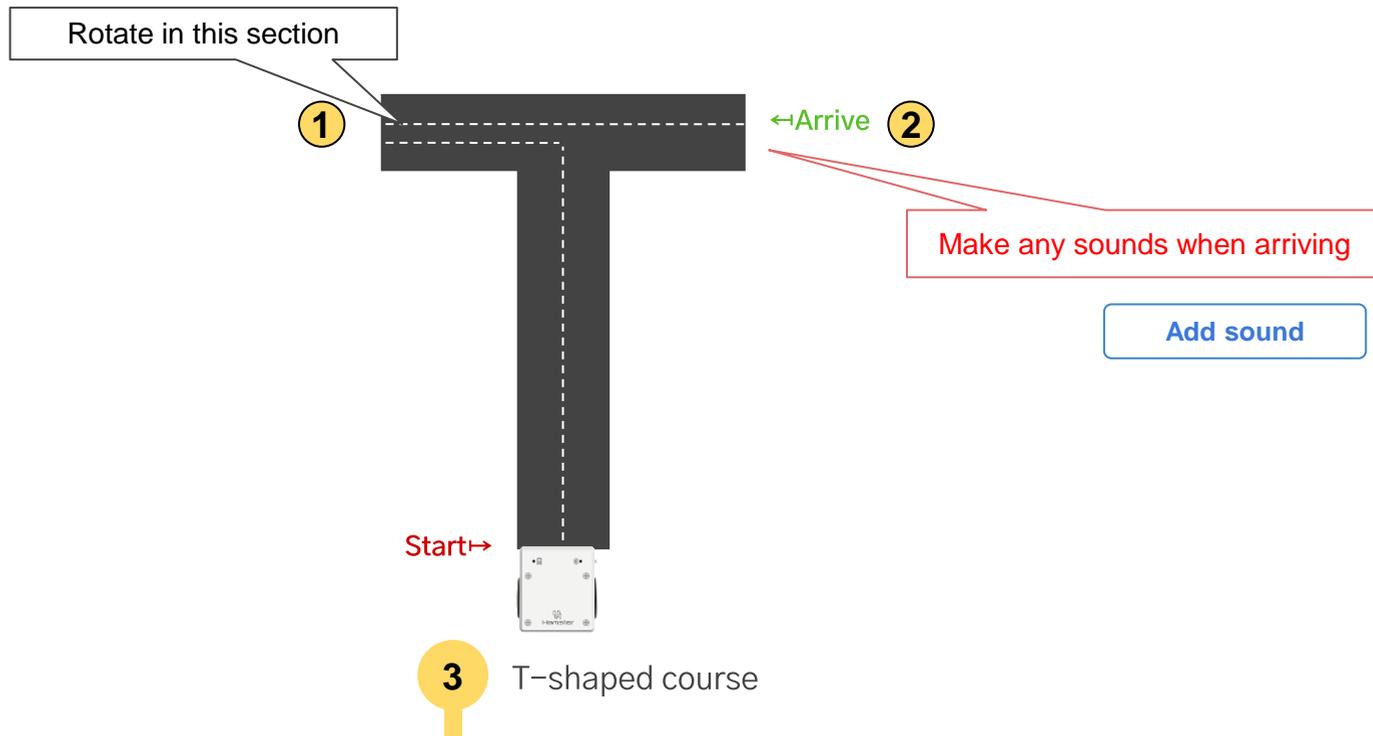
Follow the driven course

Challenge 4 Let's practice driving while following the driving course.
Preparations: Hamster, Worksheet

Make a beep sound when doing a lap

4 O-shaped course
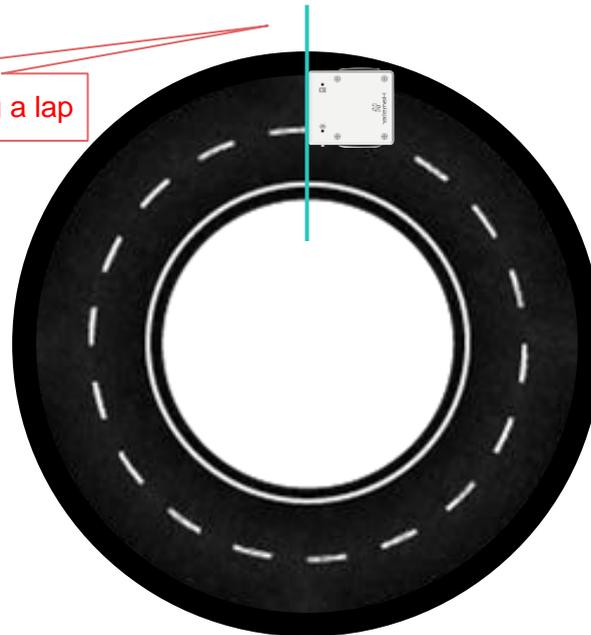
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Hamster drive

Challenge 5

Write the code to operate your Hamster.

Start↦

Be careful not to bump into obstacles

Your Hamster will make it if it reaches the destination

↤Arrive
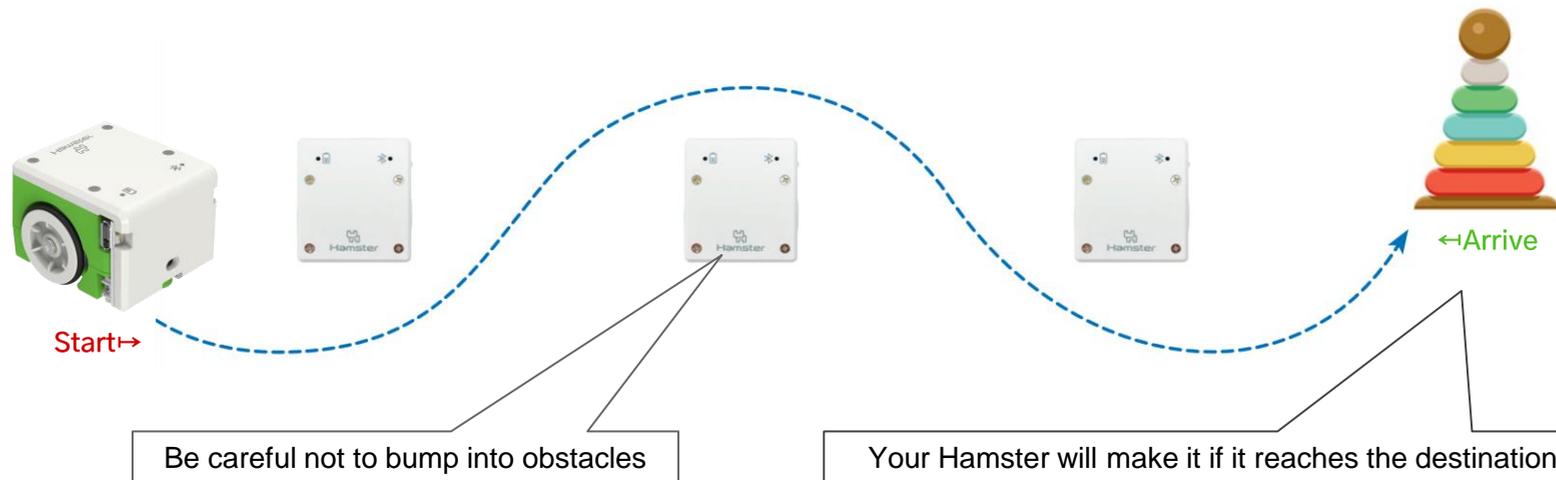
1. Position the obstacles.
2. Think about a way to make your Hamster move from the starting point to the destination as you control.
3. Write the code and practice.

Code hints Seeing the course for your Hamster to follow, write the code to control it.

Hamster drive(individual competition)

Challenge 6

Make a course as shown below and give it a shot.

Start

2

Watch out!

1

Arrive

Make different driving courses and give it a shot.

Change the number and positions of obstacles

?

Change the sound   Turn on the lights

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Hamster drive(relay race)

Challenge 7

그림처럼 경로를 만들고 도전해봅시다.

Start↦

Arrive↤

Watch out!

1

2

Make different driving courses and give it a shot.

Change the number and positions of obstacles

?

Change the sound   Turn on the lights

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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