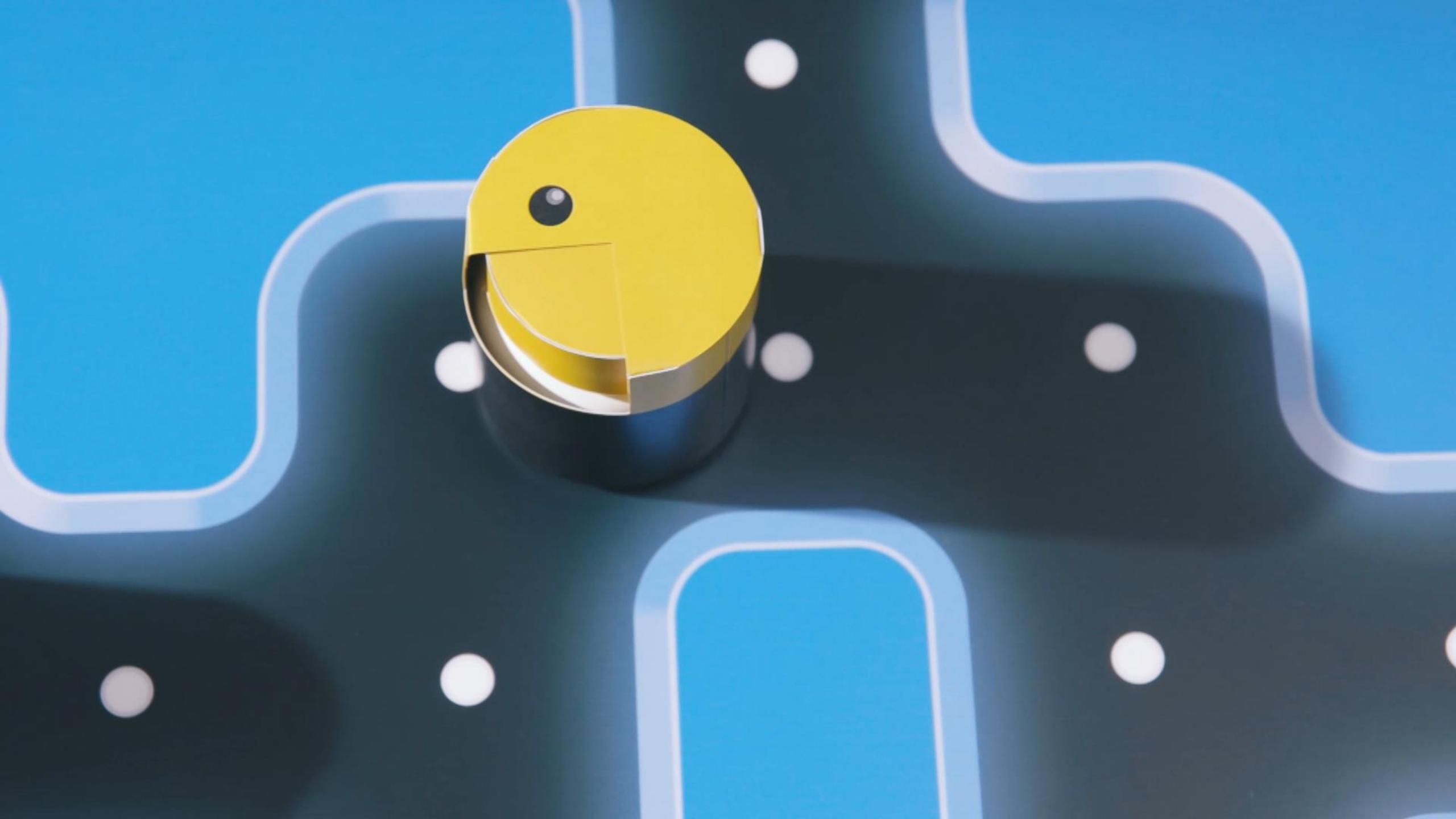
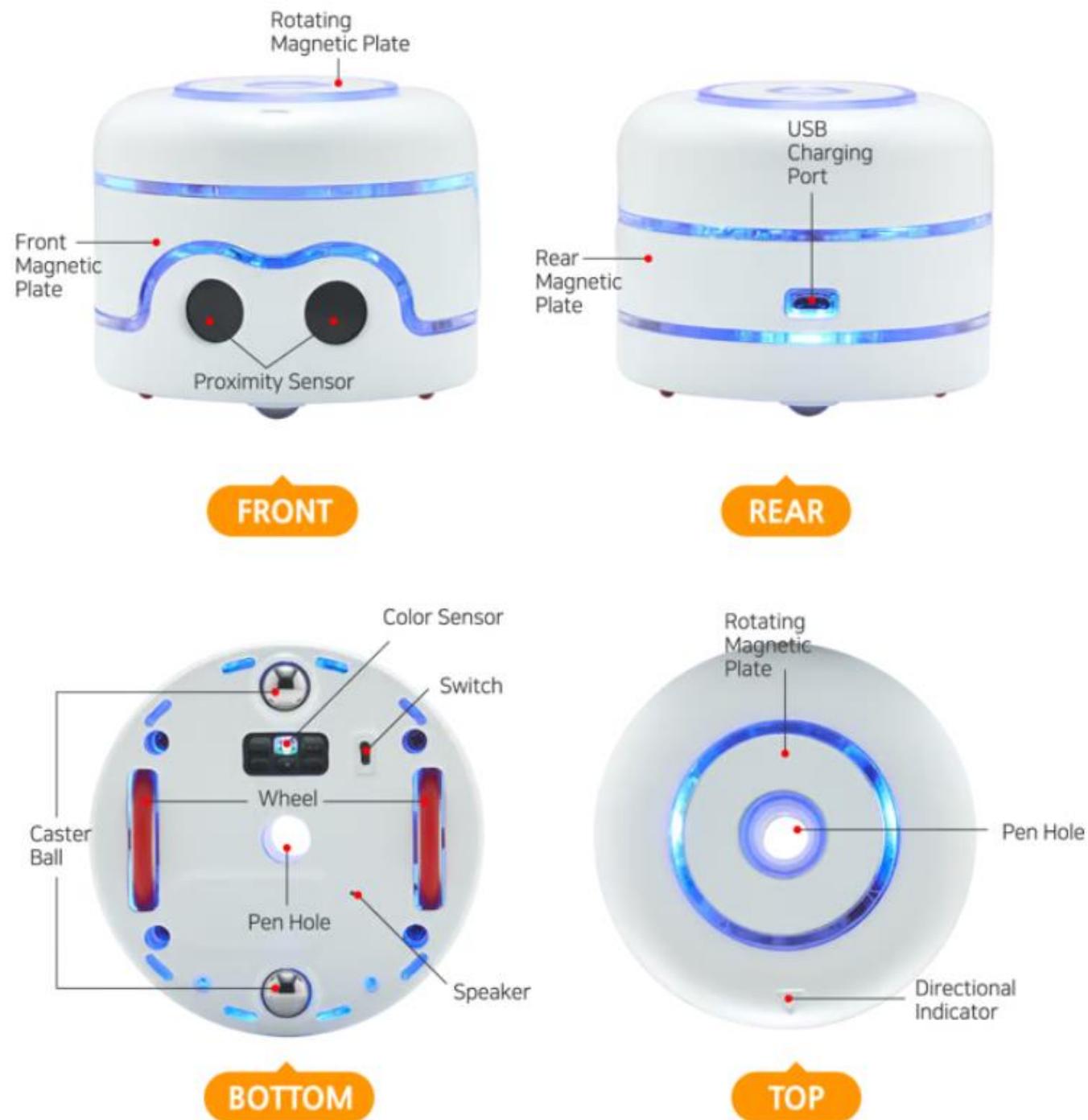


# kamibotpi

The Smart Coding Robot







# ON/OFF

01



On/Off Switch

02



Turn on Kamibot Pi by flipping the switch up to the ON position.

03

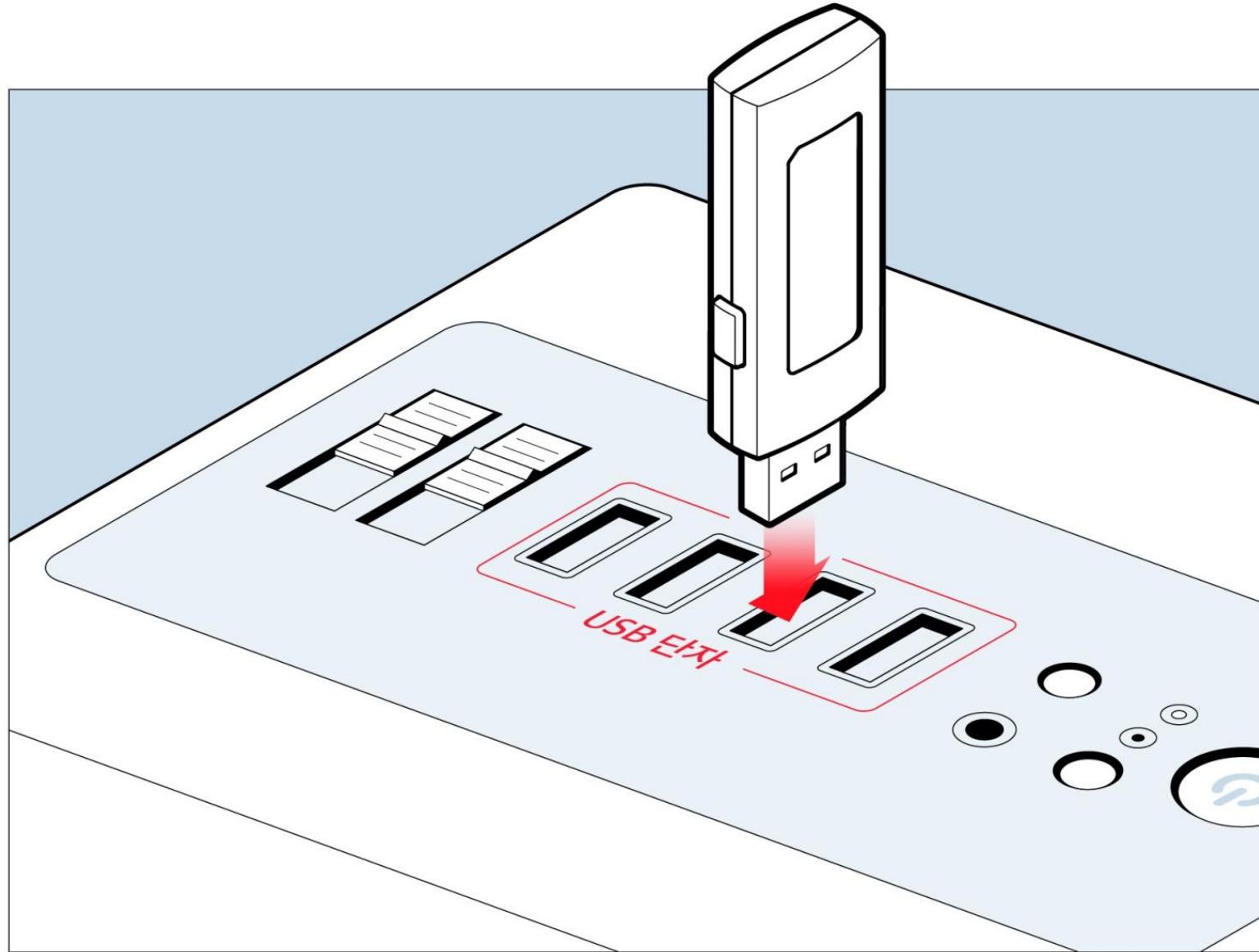


Turn off Kamibot Pi by flipping the switch down to the OFF position.

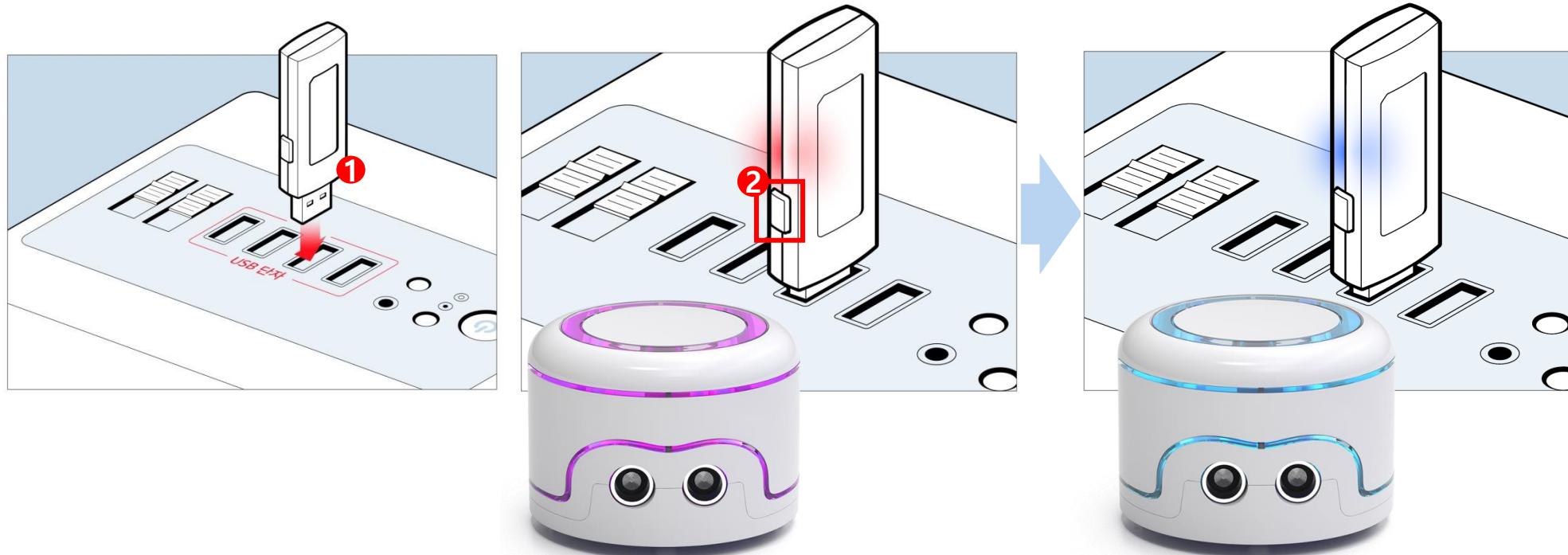
Kamibot Pi's ON/OFF switch is located on its underside.

# Software

# 1. Plug the dongle for KamibotPI



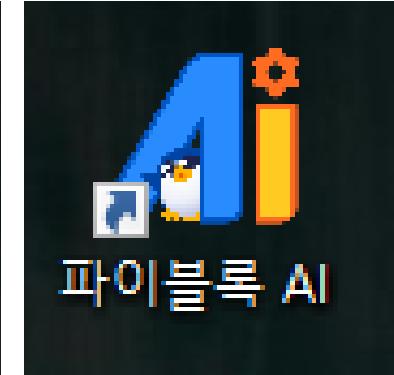
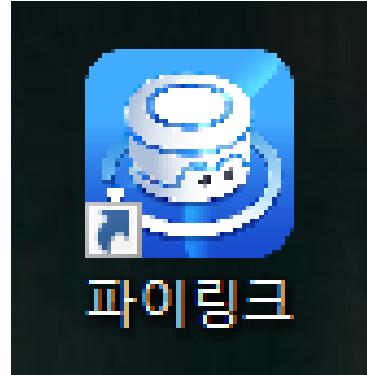
## 2. Connecting with KamibotPI



\*\* When connected, the LED changes to blue.

# Software

PILink



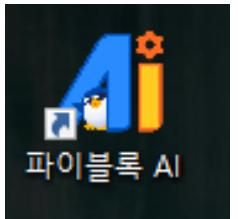
PIBlockAI



### 3. Running PiLink



\*\* Not to be stopped. Always be running.



## 4. Running PiBlockAI

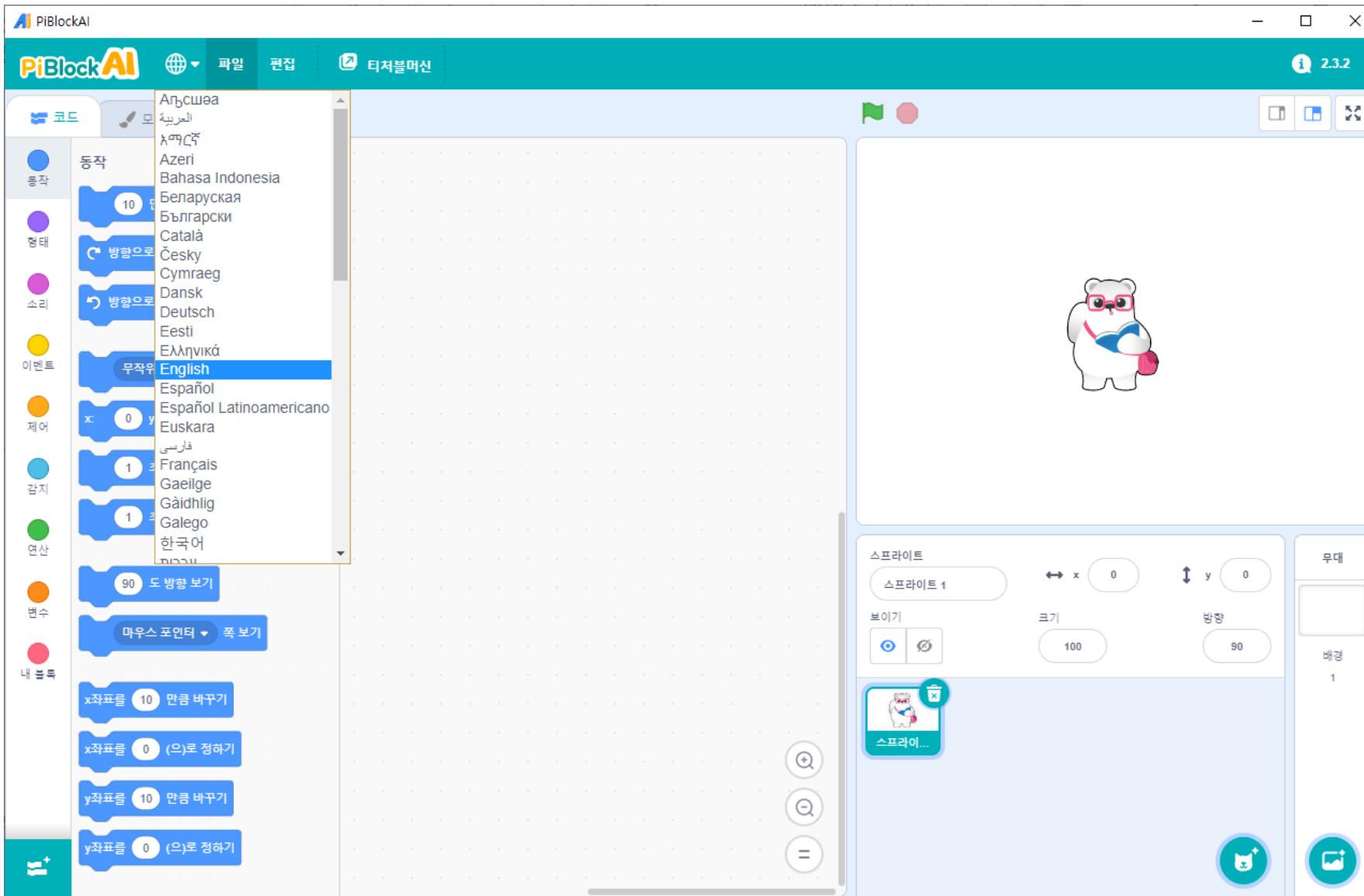
The screenshot shows the PiBlockAI software interface. The top bar includes the title "PiBlockAI", a globe icon, menu items "파일" (File) and "편집" (Edit), a toolbar tab "티처블머신" (Teacher Machine), and a version "2.3.2".

The left sidebar contains a "코드" (Code) tab selected, followed by tabs for "모양" (Shapes) and "소리" (Sound). A vertical list of block categories is on the left:

- 동작 (Motion):
  - 돌작 (Move): 10 만큼 움직이기 (Move 10 steps), 방향으로 15 도 돌기 (Turn 15 degrees), 방향으로 15 도 회전하기 (Turn 15 degrees counter-clockwise).
  - 이벤트 (Events): 무작위 위치 (Random position), (으)로 이동하기 (Move to).
  - 제어 (Control): x: 0 y: 0 (으)로 이동하기 (Move x: 0, y: 0), 초 돌안 랜덤 위치 (Random position), 초 동안 x: 0 y: 0 (으)로 이동하기 (Move x: 0, y: 0 for 1 second).
  - 감지 (Sensing): 도 방향 보기 (Check direction), 마우스 포인터 (Mouse pointer), 쪽 보기 (Check side).
  - 연산 (Operations): x좌표를 10 만큼 바꾸기 (Change x coordinate by 10), x좌표를 0 (으)로 정하기 (Reset x coordinate), y좌표를 10 만큼 바꾸기 (Change y coordinate by 10), y좌표를 0 (으)로 정하기 (Reset y coordinate).
  - 내 블록 (My Blocks):
- 모양 (Shapes)
- 소리 (Sound)

The main workspace is a grid where blocks can be assembled. On the right, there is a preview area showing a white bear-like character with glasses holding a blue book, and a "스프라이트" (Sprite) editor with settings for "크기" (Size) and "방향" (Orientation). The bottom right features export icons.

# 5. Change language to English



Code

Costumes

Sounds



Motion

move (10) steps

turn (15) degrees

turn (15) degrees



go to [random position]

go to x: (0) y: (0)

glide (1) secs to [random position]

glide (1) secs to x: (0) y: (0)

point in direction (90)

point towards [mouse-pointer]

change x by (10)

set x to (0)

change y by (10)

set y to (0)

if on edge, bounce

set rotation style [left-right]

x position

y position

direction



Sprite 스프라이트 1 x: (0) y: (0)

Show [ ] Size (100) Direction (90)

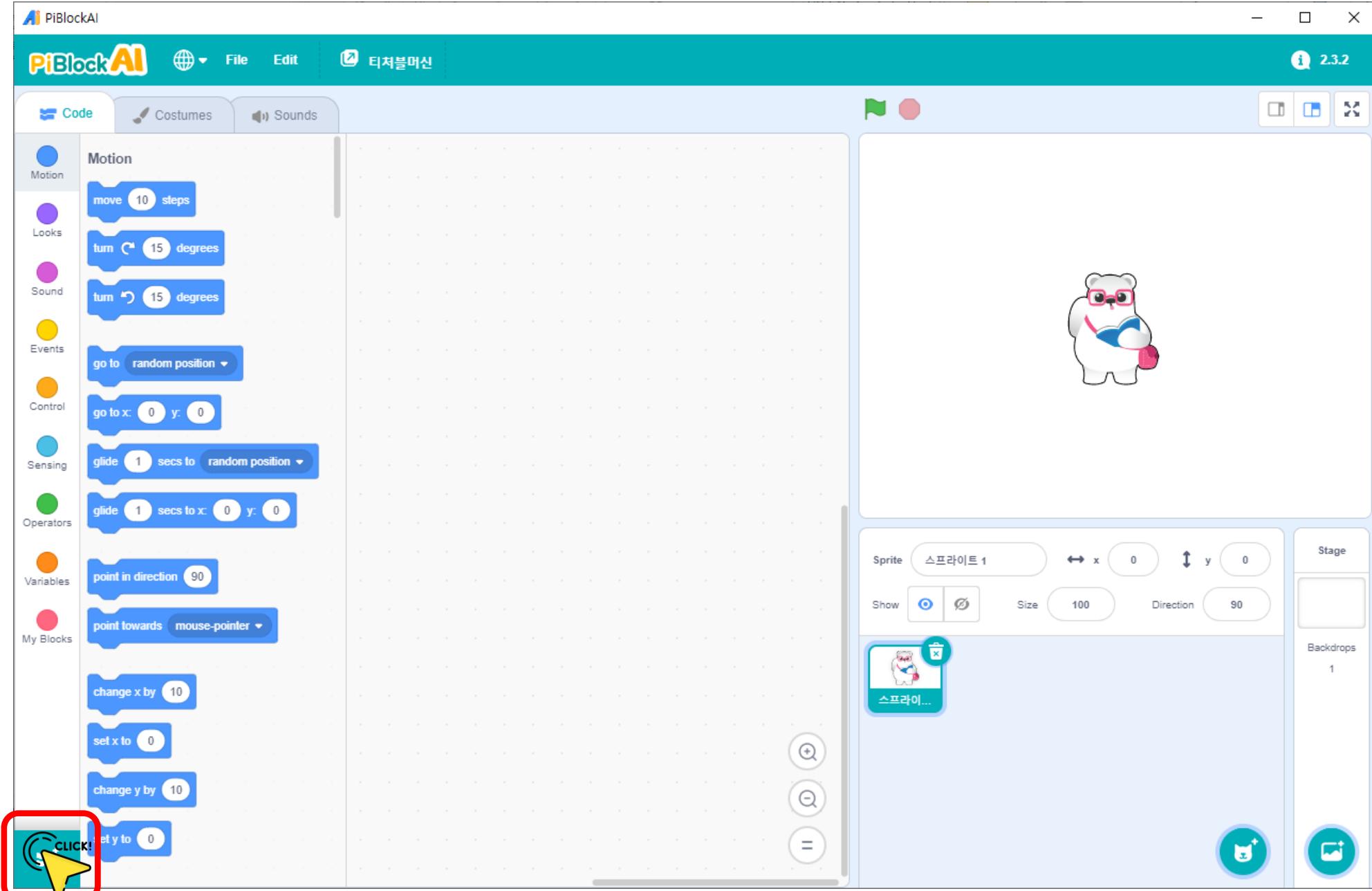


스프라이...

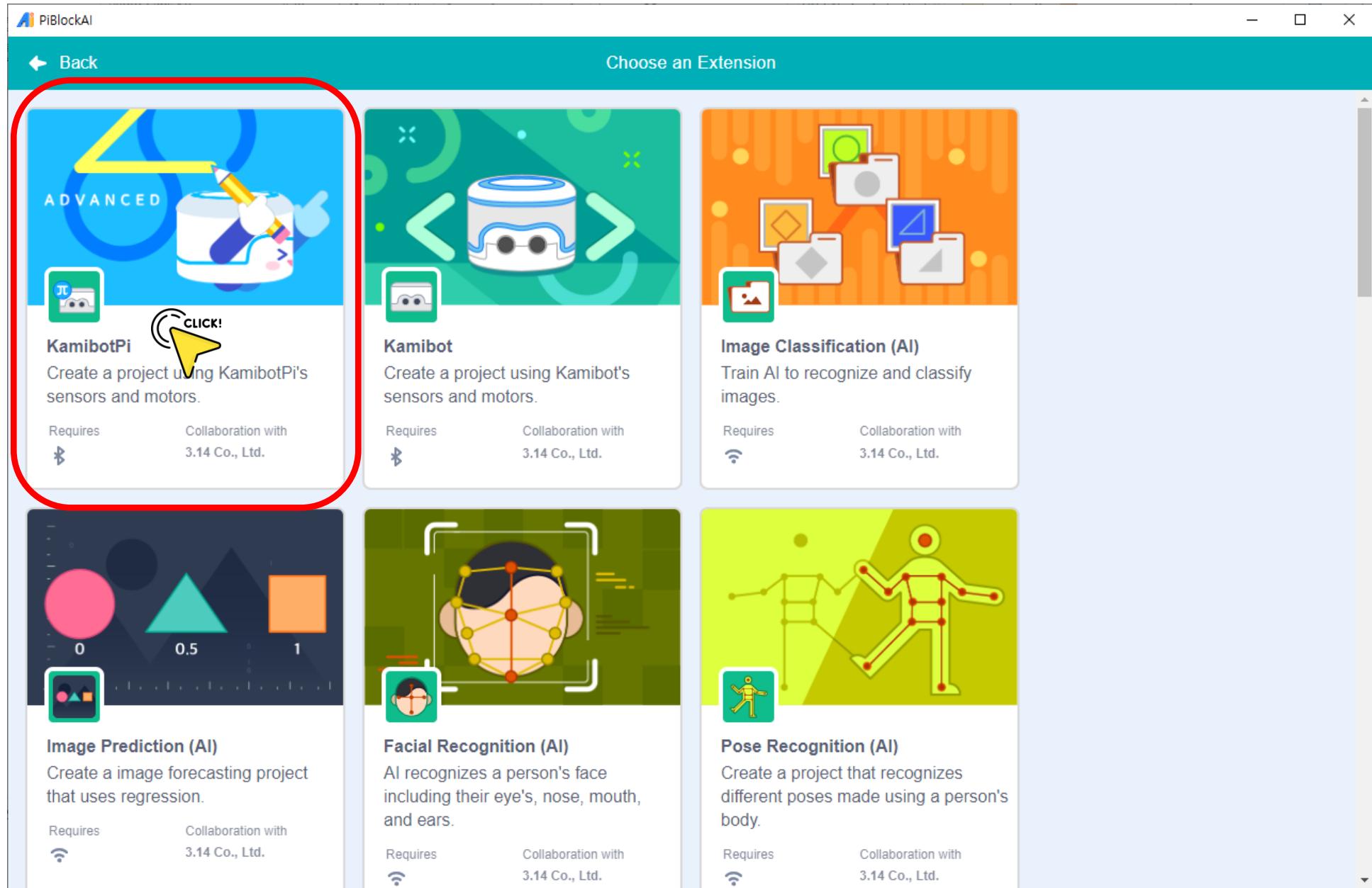


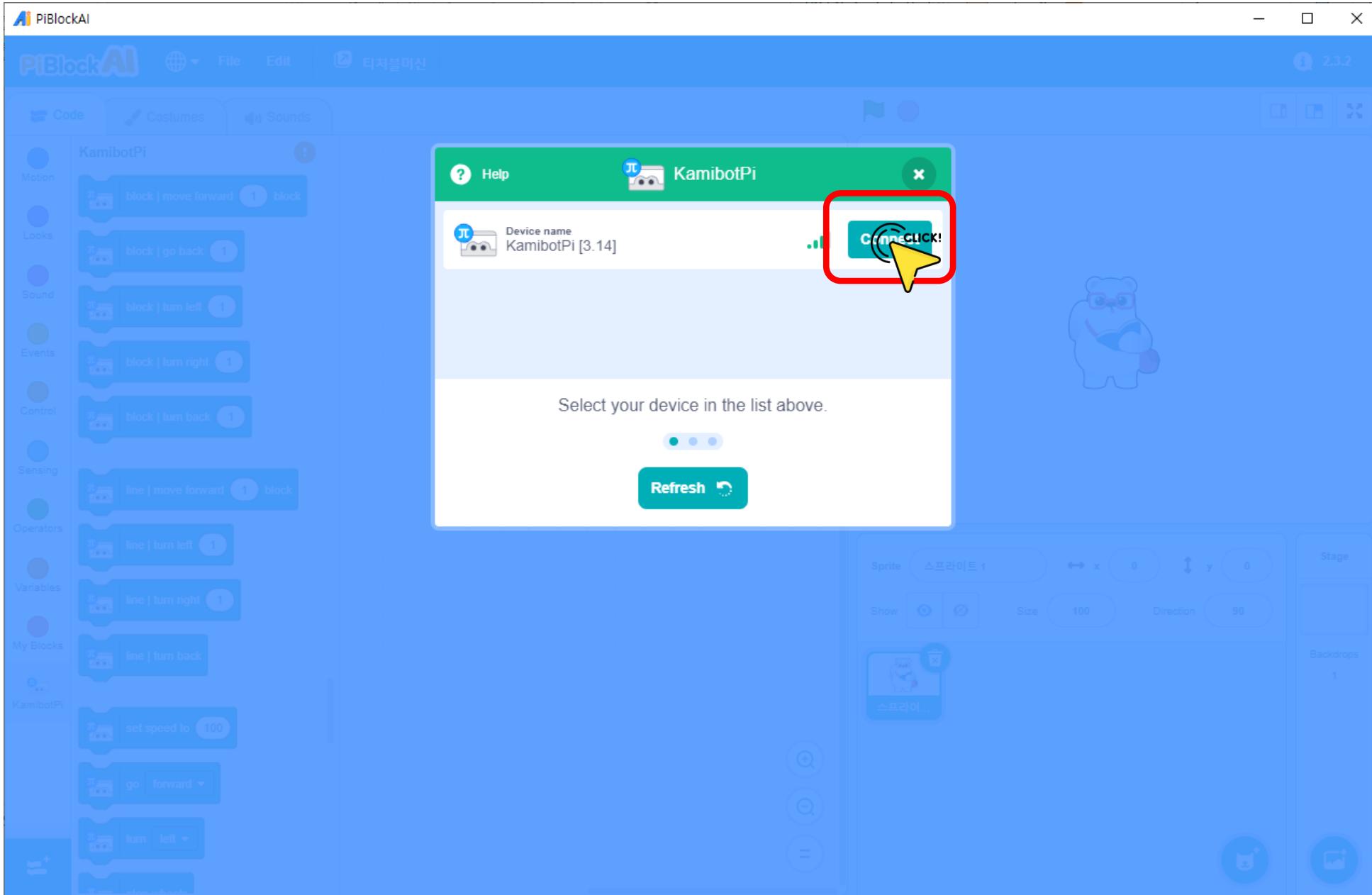
# Programming for KamibotPI with Block-Programming-Editor

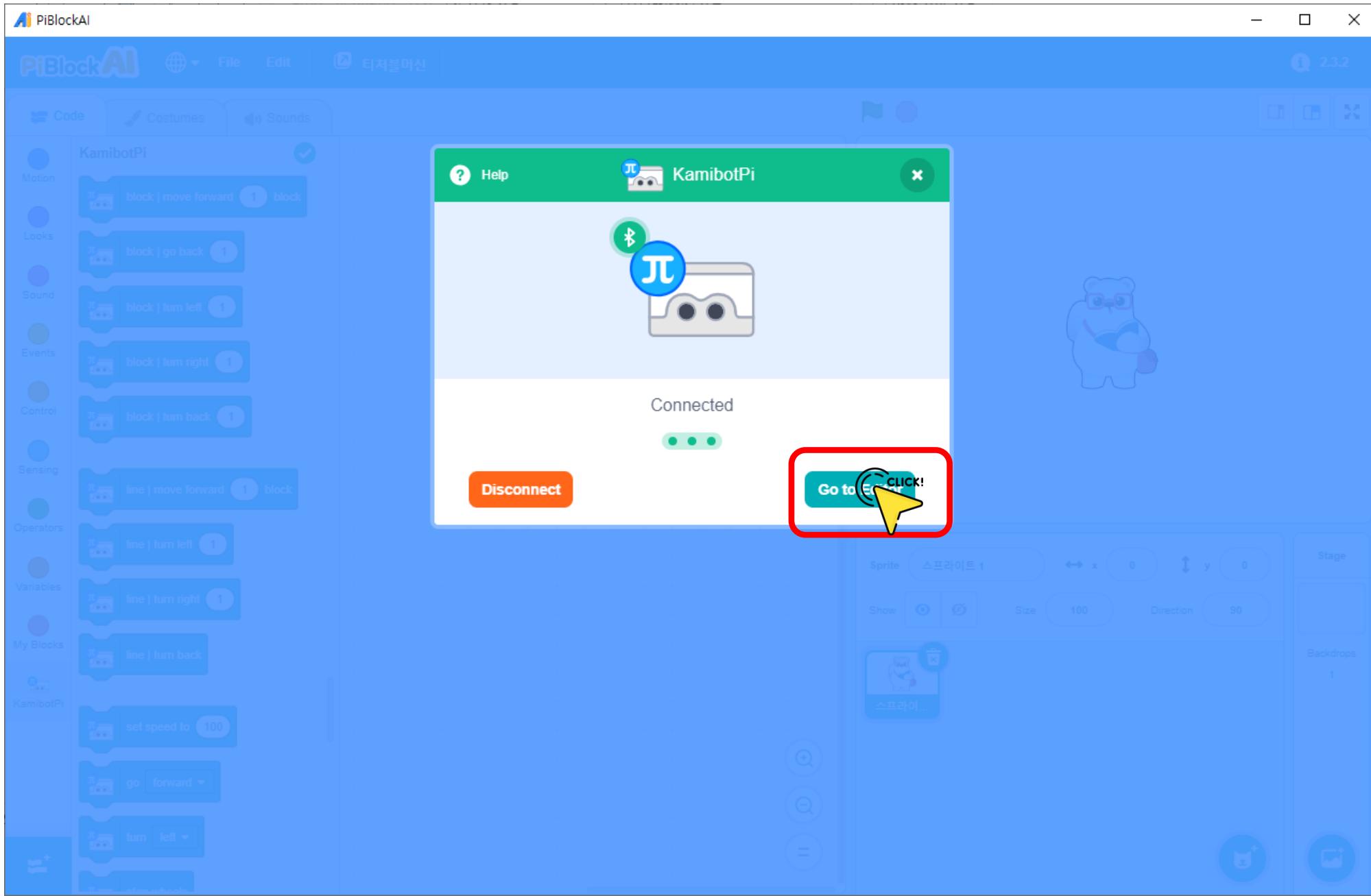
# Import Extension for KamibotPI



# Import Extension for KamibotPi







Code

Costumes

Sounds



Motion

block | move forward (1 block)

Looks

block | go back (1)

Sound

block | turn left (1)

Events

block | turn right (1)

Control

block | turn back (1)

Sensing

line | move forward (1 block)

Operators

line | turn left (1)

Variables

line | turn right (1)

My Blocks

line | turn back

KamibotPi

set speed to (100)

go [forward v]

turn [left v]

stop wheels



Sprite

스프라이트 1

↔ x

0

↕ y

0

Show

[ ]

Size

100

Direction

90

Stage

[ ]

Backdrops

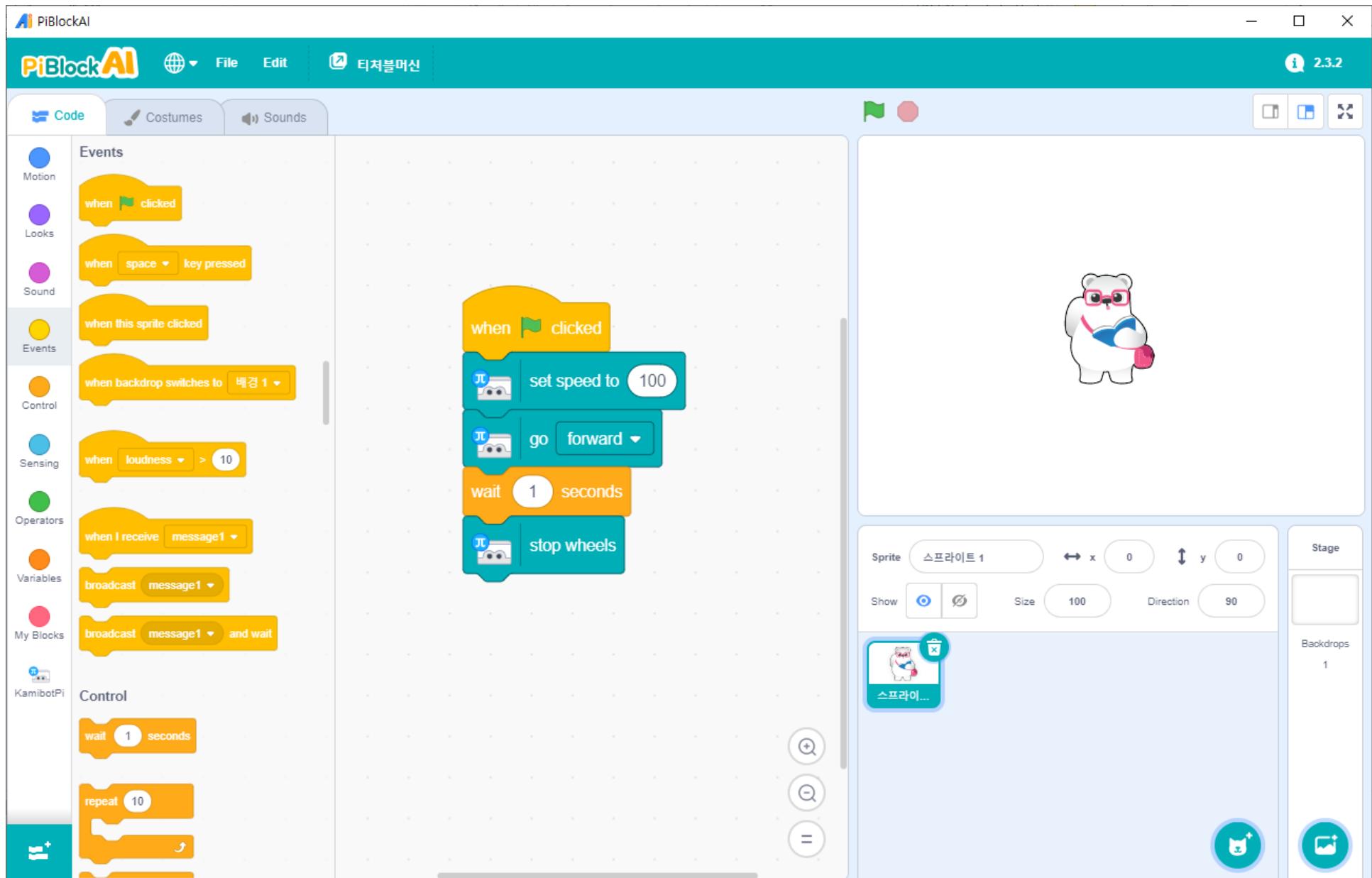
1



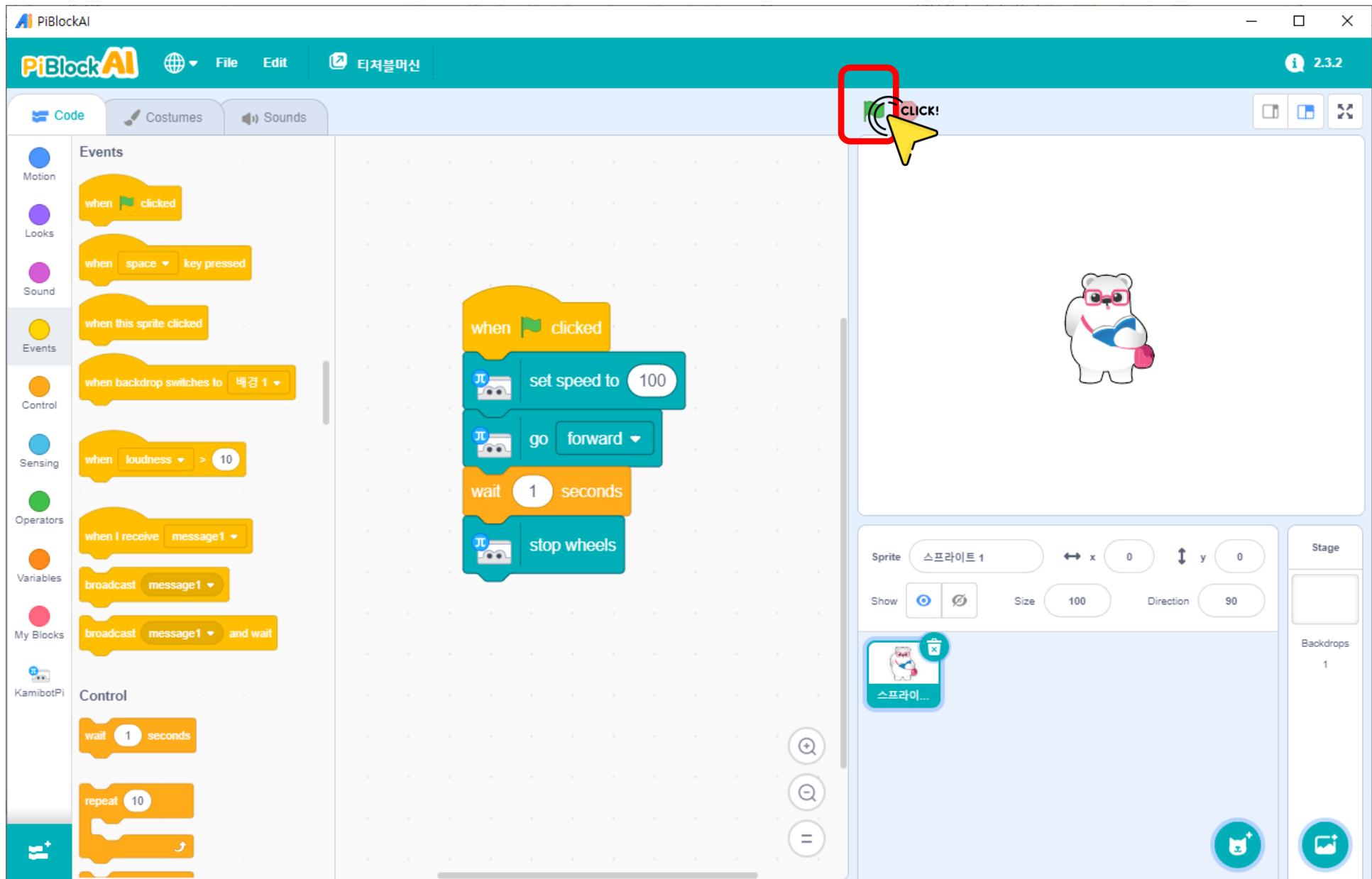
스프라이...



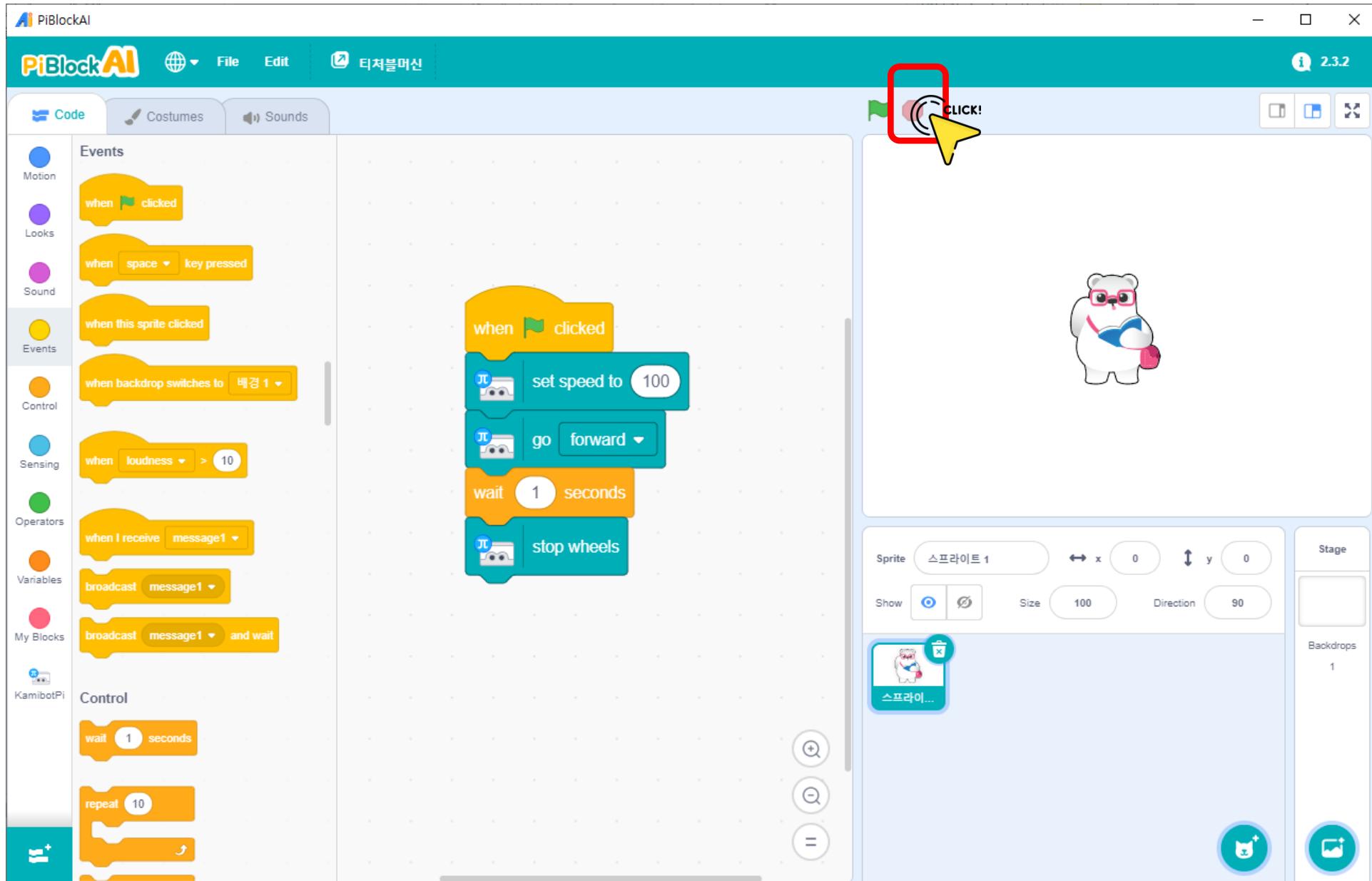
# First Program



# Running Program (Click Green Flag)



# For stopping Program (Click Red button)



Move forward for 1 second,  
backward for 1 second,  
Repeat 5 times

Code    Costumes    Sounds



Motion



Looks



Sound



Events



Control



Sensing



Operators



Variables



My Blocks



KamibotPi


Sprite 스프라이트 1

Show Size 100 Direction 90

스프라이트...

Stage

Backdrops  
1

# Move cm

Code

Costumes

Sounds

Motion

line | turn left 1

line | turn right 1

line | turn back

Events

set speed to 100

go forward ▾

Control

turn left ▾

Sensing

stop wheels

Operators

wheel speed

Variables

set speed of left wheel: 100 and right

My Blocks

turn left wheel: forward ▾ , and right

KamibotPi

left ▾ wheel speed

+

move forward ▾ 5 cm

turn in place 90 degrees left ▾

move forward ▾ 5 cm



Sprite 스프라이트 1 x 0 y 0

Show ○ ⚡ Size 100 Direction 90



Stage

Backdrops 1



# Turn

Code

Costumes

Sounds

Motion

Looks

Sound

Events

Control

Sensing

Operators

Variables

My Blocks

KamibotPi

turn in place 90 degrees left



Sprite 스프라이트 1 x 0 y 0

Show Size 100 Direction 90



스프라이...

Stage

Backdrops 1





Rotating in place for 3 seconds

Code

Costumes

Sounds

Motion

Looks

Sound

Events

Control

Sensing

Operators

Variables

My Blocks

KamibotPi

block | go back 1

block | turn left 1

block | turn right 1

block | turn back 1

line | move forward 1 block

line | turn left 1

line | turn right 1

line | turn back

set speed to 100

go forward ▾

turn left ▾

stop wheels

wheel speed

when green flag clicked

set speed to 100

turn left wheel: forward ▾ , and right wheel: backward ▾

wait 3 seconds

stop wheels



Sprite 스프라이트 1 x 0 y 0

Show Size 100 Direction 90

스프라이...

Stage

Backdrops 1



Turn left to 90 degrees

Code

Costumes

Sounds

Motion

Looks

Sound

Events

Control

Sensing

Operators

Variables

My Blocks

KamibotPi

+

set speed of left wheel:  and rightturn left wheel: , and rightleft move   cmturn in place  degrees set head turn speed to set head turn speed to turn head turn head to  degrees positionturn head to  degrees

stop head

head turn speed

head turn torque

set LED color to 

when clicked

turn in place  degrees 

Sprite

스프라이트 1  

Show

Stage

Backdrops

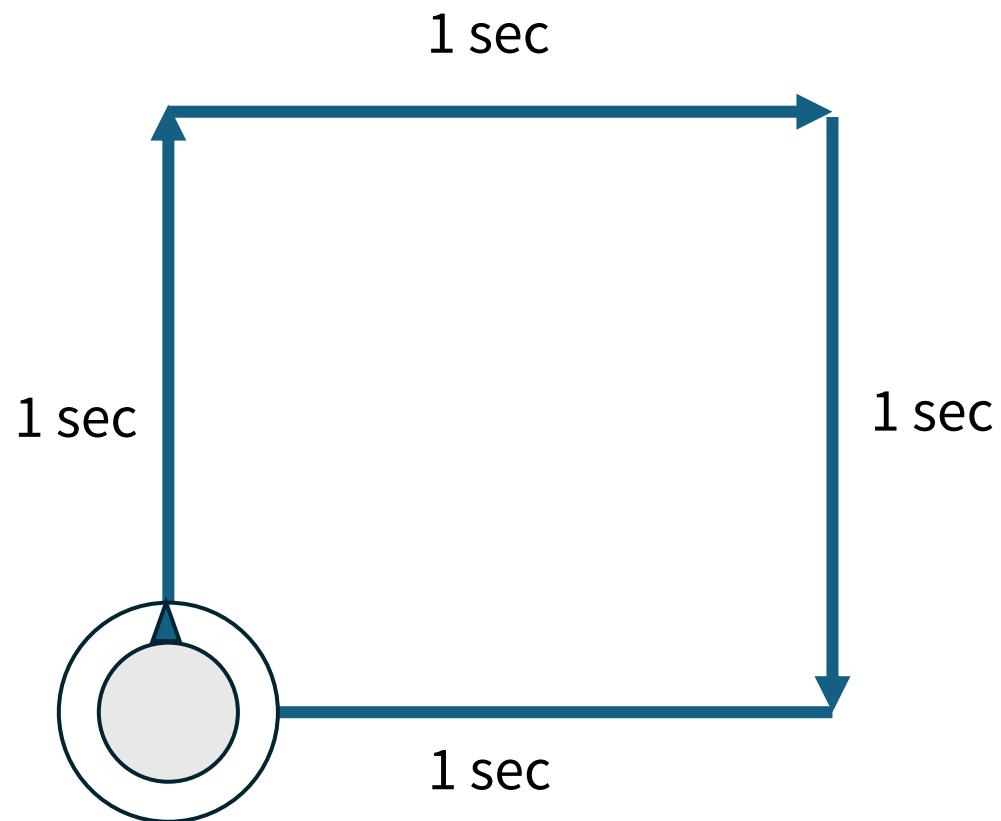
1



스프라이...



Move to square shape



Code    Costumes    Sounds

Motion

Events

when green flag clicked

Looks

when space key pressed

Sound

when this sprite clicked

Events

when backdrop switches to 배경 1

Control

when loudness &gt; 10

Sensing

when I receive message1

Operators

broadcast message1

Variables

broadcast message1 and wait

My Blocks

KamibotPi

Control

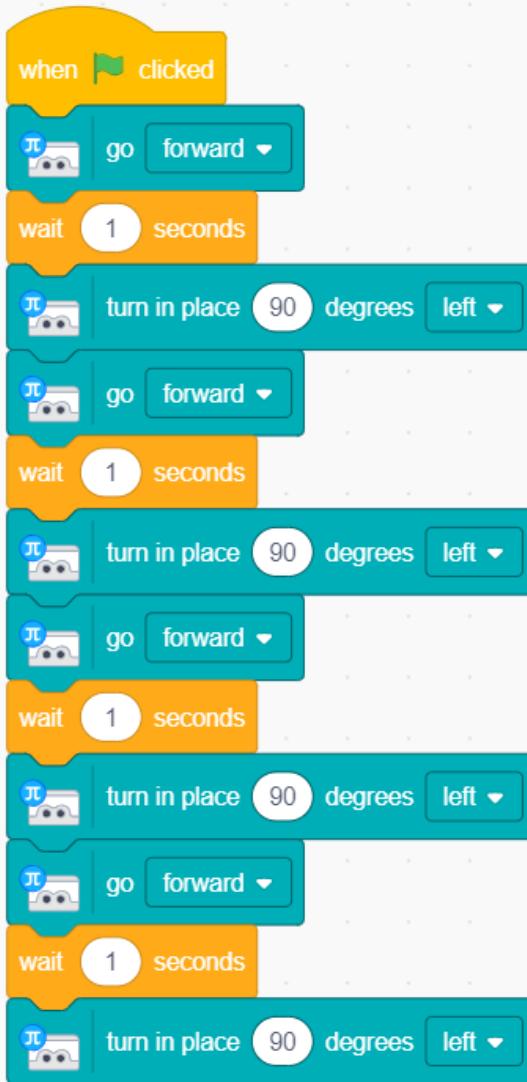
wait 1 seconds

repeat (10)

end

forever

end



```
when green flag clicked
  [KamibotPi v1.0] go [forward v] [1]
  [KamibotPi v1.0] wait [1] [seconds]
  [KamibotPi v1.0] turn in place [90] [degrees] [left v]
  [KamibotPi v1.0] go [forward v] [1]
  [KamibotPi v1.0] wait [1] [seconds]
  [KamibotPi v1.0] turn in place [90] [degrees] [left v]
  [KamibotPi v1.0] go [forward v] [1]
  [KamibotPi v1.0] wait [1] [seconds]
  [KamibotPi v1.0] turn in place [90] [degrees] [left v]
  [KamibotPi v1.0] go [forward v] [1]
  [KamibotPi v1.0] wait [1] [seconds]
  [KamibotPi v1.0] turn in place [90] [degrees] [left v]
```

스프라이트 1  
x 0 y 0

스프라이...

Stage  
x 0 y 0Backdrops  
1

Code

Costumes

Sounds



Events

when green flag clicked



when space key pressed



when this sprite clicked



when backdrop switches to 배경 1



when loudness &gt; 10



when I receive message1



broadcast message1



broadcast message1 and wait



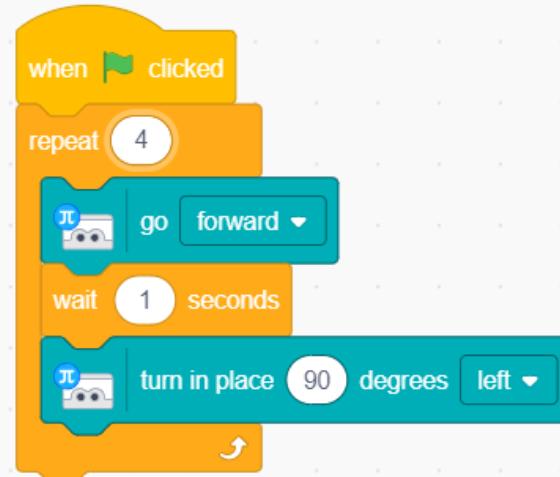
Control

wait 1 seconds

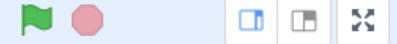
repeat 10

forever

# Using iterative blocks



```
when green flag clicked
repeat (4)
  [go forward (10) steps
  wait (1) seconds
  turn in place (90) degrees left]
```



스프라이트 1

x 0 y 0



스프라이...

Stage

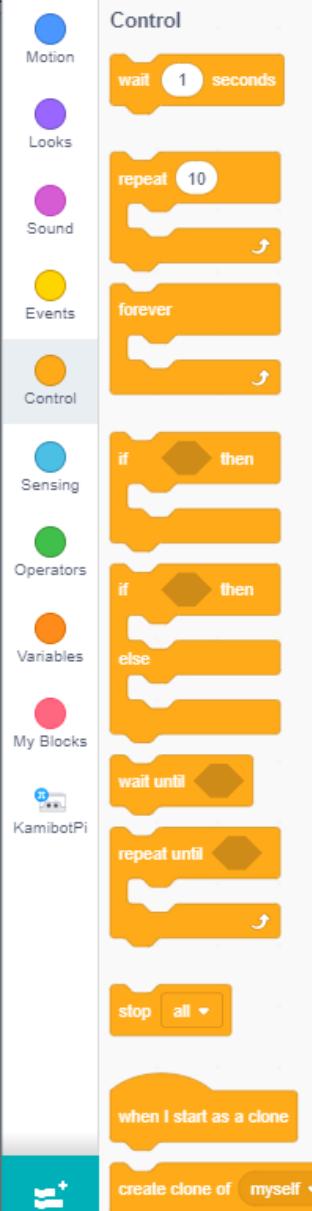
Backdrops

1

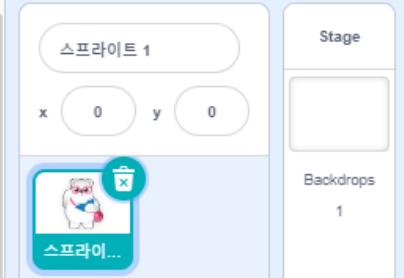
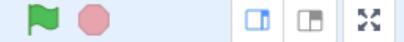


Make the LEDs show blue and red repeatedly

Code    Costumes    Sounds



```
when green flag clicked
forever
  set LED color to [Red v]
  wait [0.3 seconds]
  set LED color to [Blue v]
  wait [0.3 seconds]
```



# Beep

Code

Costumes

Sounds

Motion

head turn speed

head turn torque

Looks

set LED color to Red

set LED color to R: 255 G: 0 B:

Sound

draw triangle ▾ with 10 cm side

draw circle ▾ with 5 cm radius

Events

반지름 5 cm 원호 90 degree

Control

make beep sound

Sensing

stop sound

Operators

play 13:C(4) note for 1 sec

Variables

left proximity sensor

My Blocks

left floor sensor

KamibotPi

floor sensor

make beep sound



Sprite 스프라이트 1 x: 0 y: 0

Show Size: 100 Direction: 90



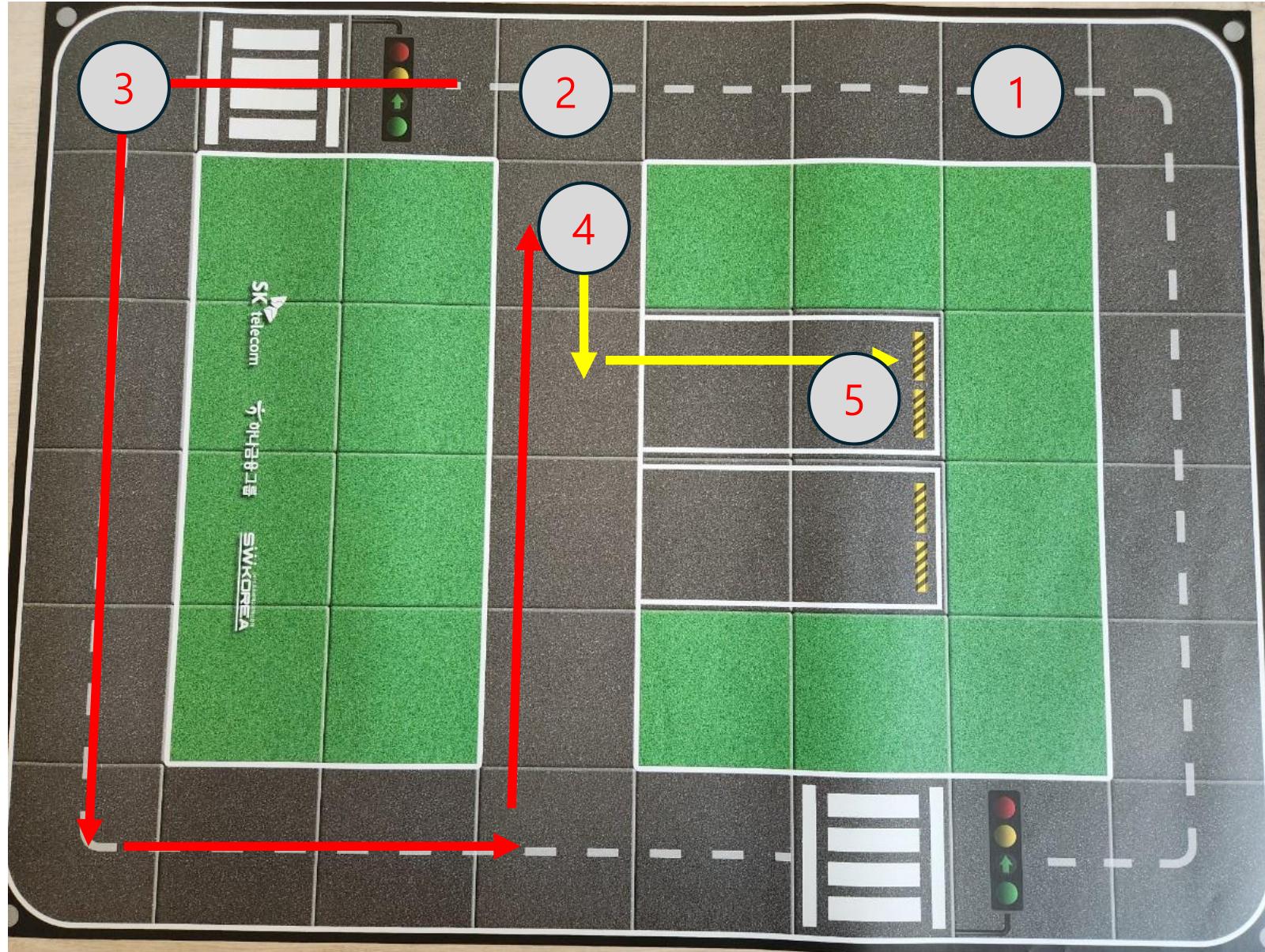
Stage

Backdrops

1



# Kamibot



1

Beep 2  
Speed: 50  
LED : Green  
Start

2

Stop  
Beep 2  
LED : Red  
Wait 1 sec  
LED : Green  
Start

3

Stop  
Beep 2  
LED : Red  
Wait 1 sec  
LED : Green  
Start

4

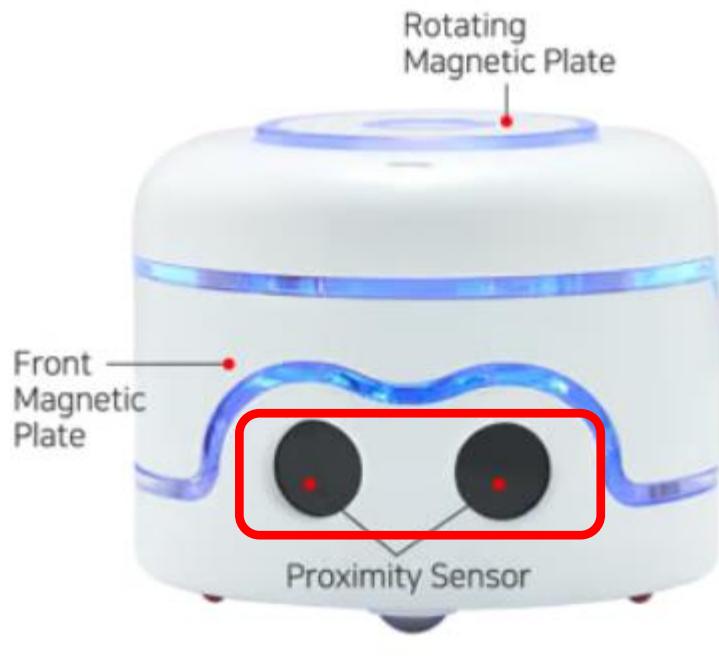
Beep 2  
Backward  
LED : Yellow

5

Stop  
LED : Blue  
Stop



Stop if you encounter an obstacle



FRONT

Code    Costumes    Sounds



	Looks
Motion	
Looks	
Sound	
Events	
Control	
Sensing	
Operators	
Variables	
My Blocks	    
KamibotPi	 

# Check sensor values



Sprite 스프라이트 1 x 0 y 0  
Show Size 100 Direction 90  
 스프라이...

Stage  
Backdrops 1



Code

Costumes

Sounds



show variable 나의 변수 ▾



hide variable 나의 변수 ▾

Make a List



My Blocks

Make a Block



KamibotPi



block | move forward 1 block



block | go back 1



block | turn left 1



block | turn right 1



block | turn back 1



line | move forward 1 block



line | turn left 1



line | turn right 1



line | turn back



set speed to 100

# Stop if you encounter an obstacle

```
when green flag clicked
forever
  if [proximity sensor < left v] then
    stop wheels
  else
    go [forward v]
```



Sprite

스프라이트 1



y

0

Size

100

Direction

90

Show



Stage

Backdrops

1

Backdrops

1



Show a green LED when the Kamibot is moving  
and a red LED when it's stopped

Code    Costumes    Sounds

Motion

- set speed of left wheel: 100 and right
- turn left wheel: forward ▾, and right
- left ▾ wheel speed

Looks

- move forward ▾ 5 cm
- turn in place 90 degrees left ▾

Sound

- set head turn speed to 5
- set head turn speed to [ ]

Events

- turn head left ▾
- turn head to 90 degrees position
- turn head to 90 degrees

Control

- stop head
- [head turn speed]
- [head turn torque]

Sensing

- set LED color to Red ▾
- stop wheels

Operators

- if [proximity sensor] > 10 then
- else
- set LED color to Green ▾
- go forward ▾

Variables

- variables [ ]

My Blocks

- KamibotPi

+ [ ]

- set LED color to Red ▾
- set LED color to R: 255 G: 0 B:

when green flag clicked

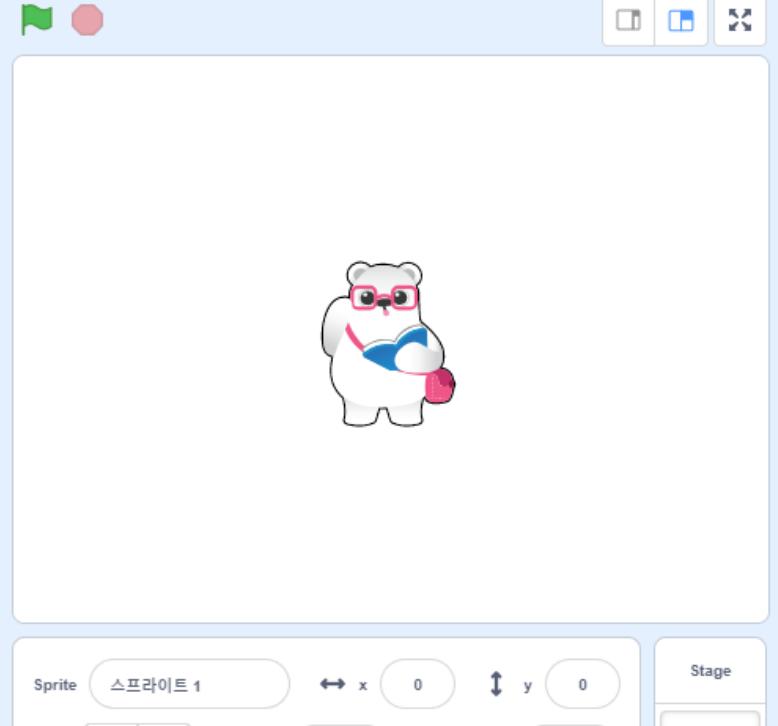
forever

if [proximity sensor] > 10 then

- set LED color to Red ▾
- stop wheels

else

- set LED color to Green ▾
- go forward ▾



Stage

Backdrops 1



# Using AI

## Pose Recognition

Code

Costumes

Sounds

set speed of left wheel:  and rightturn left wheel: , and right

left ▾ wheel speed

move   cmturn in place  degrees  ▾set head turn speed to set head turn speed to turn head  ▾turn head to  degrees positionturn head to  degrees

stop head

head turn speed

head turn torque

set LED color to  ▾set LED color to R:  G:  B:

Sprite

스프라이트 1

x

0

y

0

Show



Size

100

Direction

90



스프라이...

Stage

Backdrops

1



[Back](#)

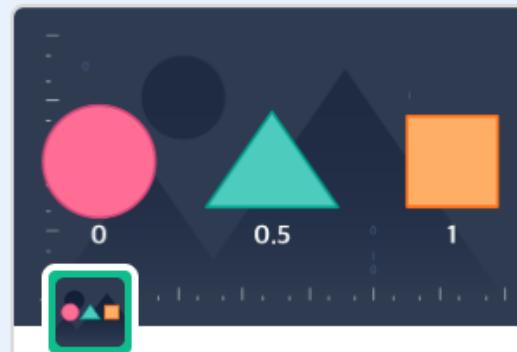
## Choose an Extension

Requires



Collaboration with

3.14 Co., Ltd.

**Image Prediction (AI)**

Create a image forecasting project that uses regression.

Requires



Collaboration with

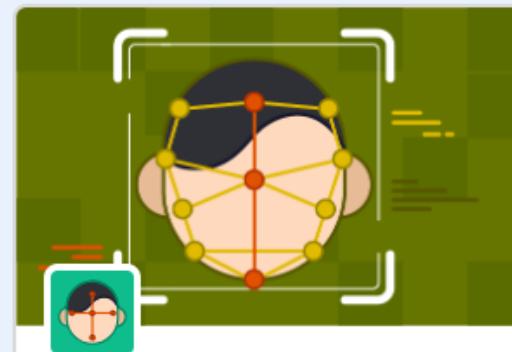
3.14 Co., Ltd.

Requires



Collaboration with

3.14 Co., Ltd.

**Facial Recognition (AI)**

AI recognizes a person's face including their eye's, nose, mouth, and ears.

Requires



Collaboration with

3.14 Co., Ltd.

Requires



Collaboration with

3.14 Co., Ltd.

**Pose Recognition (AI)**

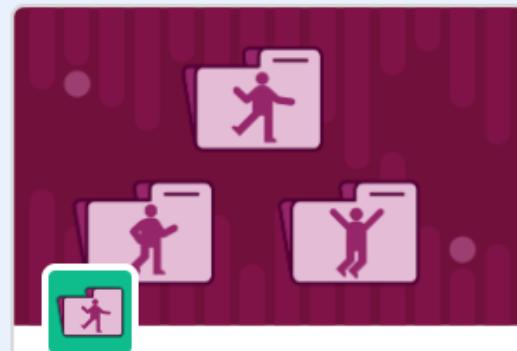
Create a project that recognizes different poses made using a person's body.

Requires



Collaboration with

3.14 Co., Ltd.

**Pose Classification (AI)**

AI can be trained to recognize and

**Teachable Machine (Image)**

Train an image classification model

**Teachable Machine (Audio)**

Train an sound classification model



Code

Costumes

Sounds

Motion

Looks

Sound

Events

Control

Sensing

Operators

Variables

My Blocks

KamibotPi

Pose Recognition

## Pose Recognition

when pose recognized

turn pose recognition on ▾

turn pose skeleton on ▾

finished recognizing?

nose x ▾ position

left ▾ eye x ▾ position

left ▾ ear x ▾ position

left ▾ shoulder x ▾ position

left ▾ elbow x ▾ position

left ▾ wrist x ▾ position

left ▾ hip x ▾ position

left ▾ knee x ▾ position

left ▾ ankle x ▾ position

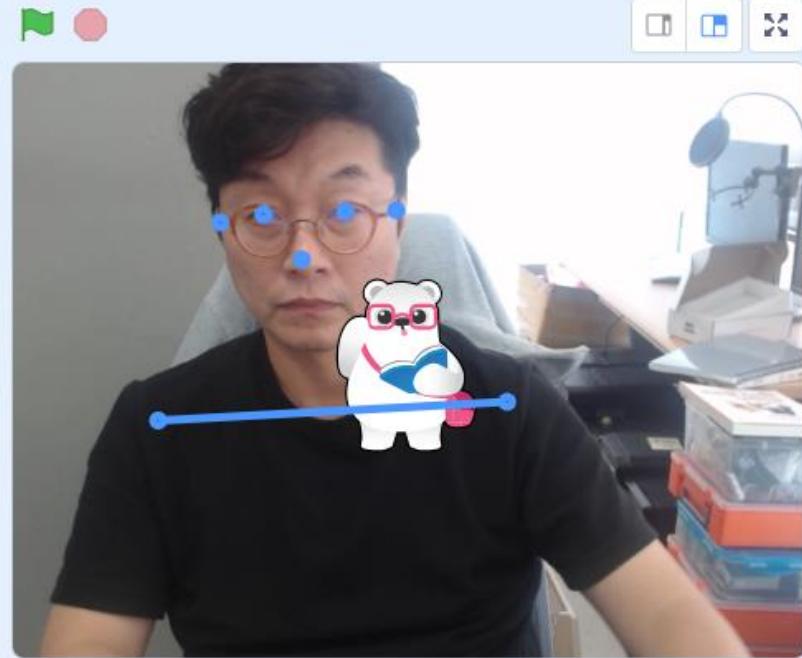
turn video on ▾

set video transparency to 50

when clicked

turn pose recognition on ▾

turn pose skeleton on ▾



Sprite 스프라이트 1

Show Size 100 Direction 90

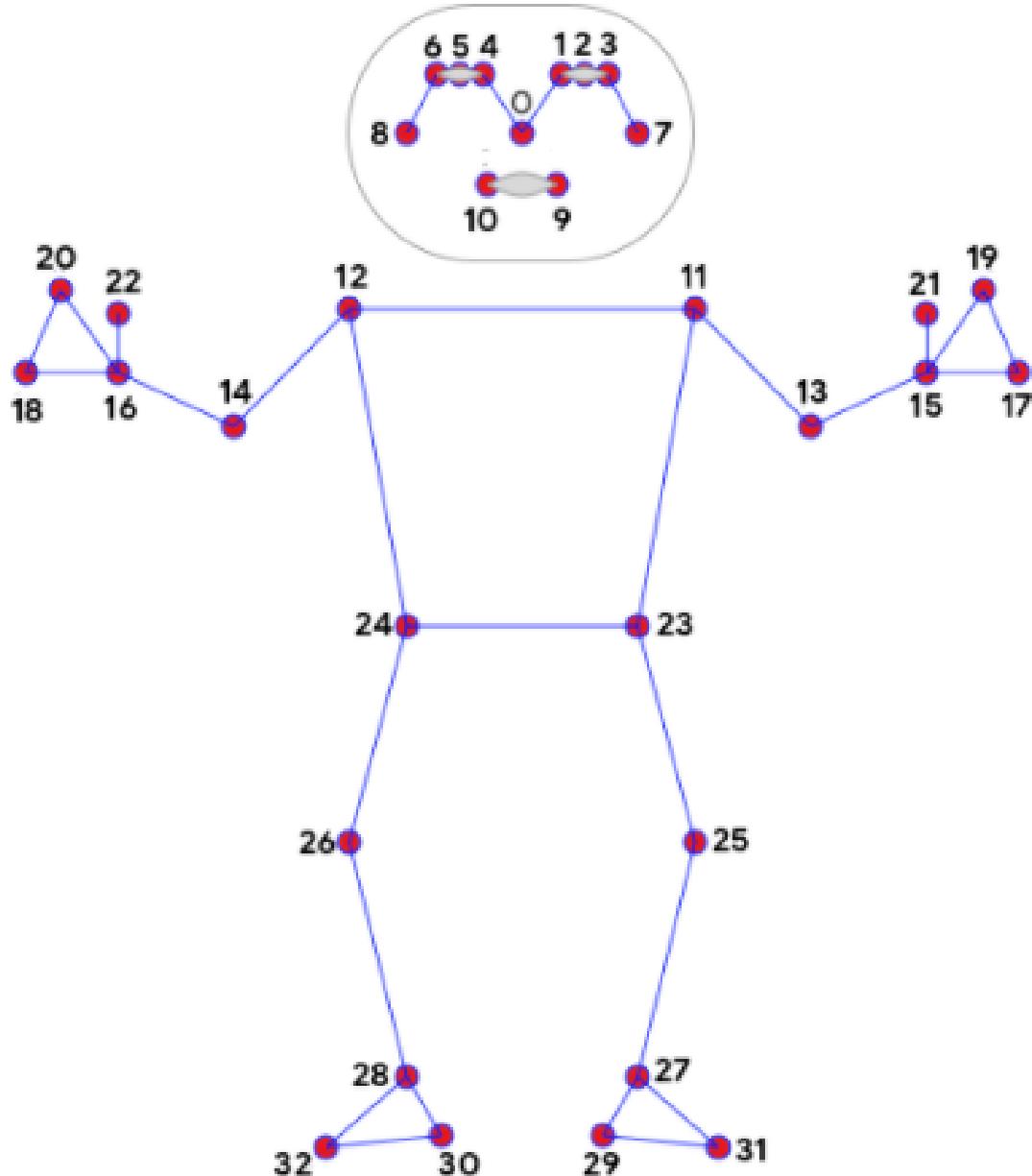


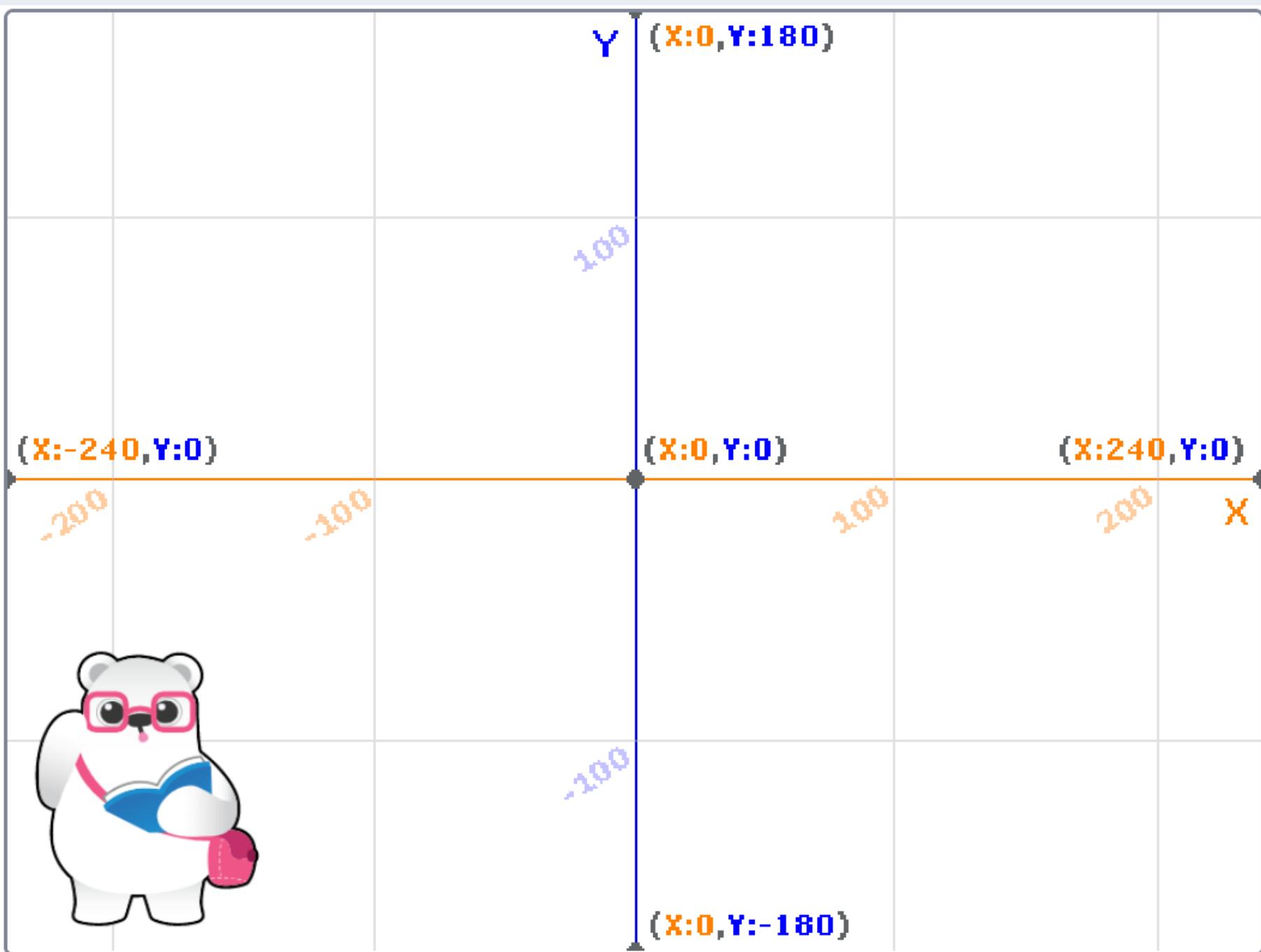
Stage

Backdrops

1







Check the coordinates of your right wrist

Code

Costumes

Sounds



Motion

Looks

say Hello! for 2 seconds



Looks

say Hello!



Sound

think Hmm... for 2 seconds



Events

think Hmm...



Control

switch costume to 모양 2 ▾



Sensing

next costume



Operators

switch backdrop to 배경 1 ▾



Variables

next backdrop



My Blocks

change size by 10



KamibotPi

set size to 100 %



Pose Recognition

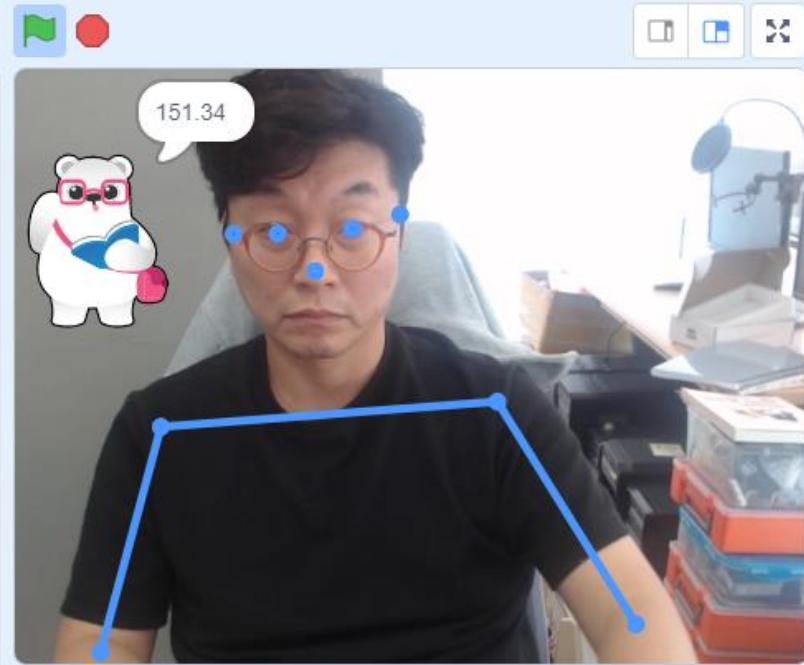
change color ▾ effect by 25

set color ▾ effect to 0

clear graphic effects



show



Sprite 스프라이트 1 x -188 y 79  
Show Size 100 Direction 90  
 스프라이...

Stage

Backdrops 2



If the X coordinate of the right wrist is greater than 0,  
the Kamibot moves forward,  
less than 0, the Kamibot will move backward.

Code

Costumes

Sounds

Motion

Looks

Sound

Events

Control

Sensing

Operators

Variables

My Blocks

KamibotPi

Pose Recognition

+

KamibotPi

block | move forward [1] block

block | go back [1]

block | turn left [1]

block | turn right [1]

block | turn back [1]

line | move forward [1] block

line | turn left [1]

line | turn right [1]

line | turn back

set speed to [100]

go [forward ▾]

turn [left ▾]

stop wheels

when [flag clicked]

turn pose recognition [on ▾]

turn pose skeleton [on ▾]

forever

if [right ▾ wrist x ▾ position &gt; 0] then

go [forward ▾]

else

go [backward ▾]



Sprite 스프라이트 1 x -188 y 79  
Show Size 100 Direction 90



Stage

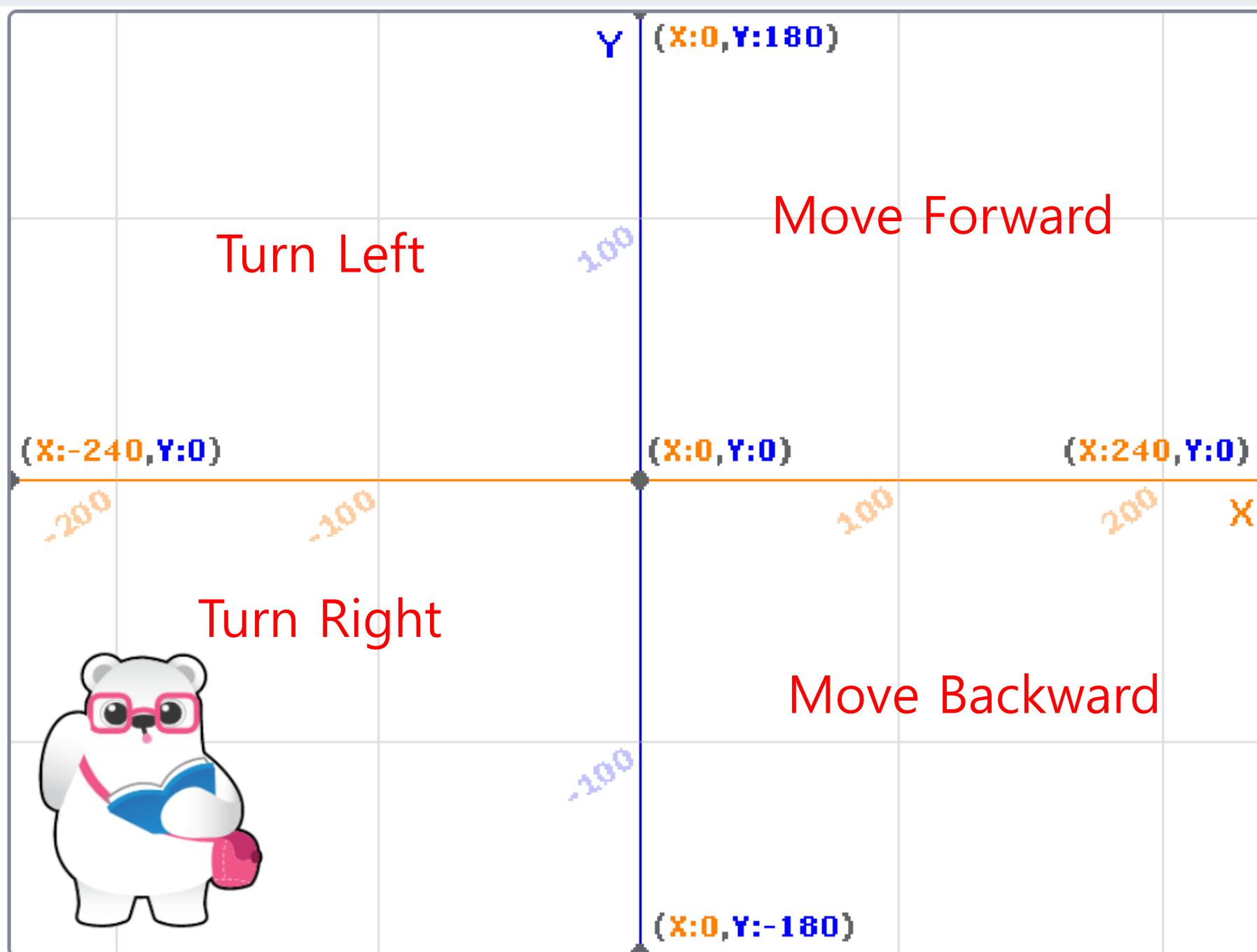
Backdrops

2



# Project

Control Kamibot using the  
coordinates on your right wrist



**THE END**