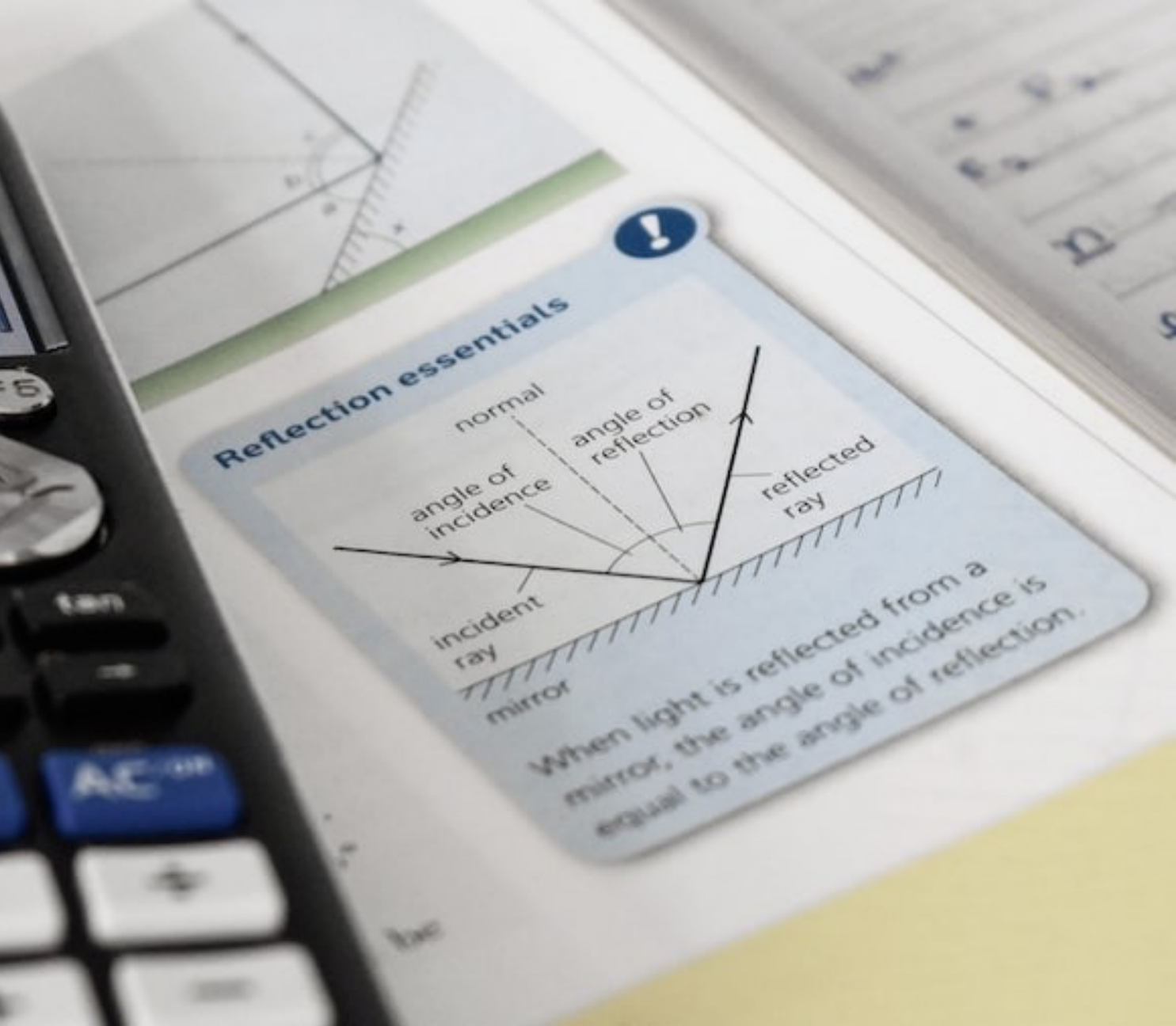


# Preparing children for artificial intelligence



Dale Lane  
IBM





**“The only constant  
in life is change.”**

Heraclitus  
6<sup>th</sup> Century BC

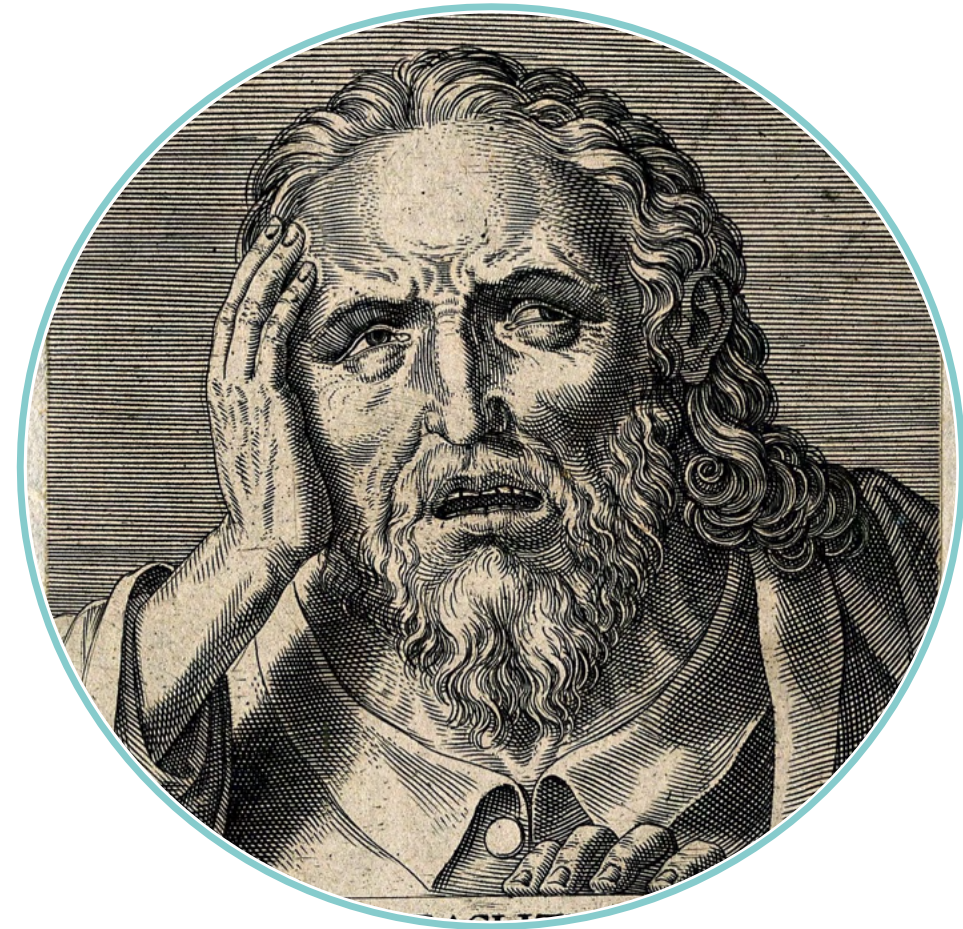


Image: <https://www.worldhistory.org/image/5132/heraclitus-of-ephesus/>



# Evolution of technology

Created by  
**specialists**

Used by  
**specialists**

Created by  
**specialists**

Used by  
**everyone**

Created by  
**everyone**

Used by  
**everyone**



# Evolution of technology

Created by  
**specialists**

Used by  
**specialists**

teach  
children it  
exists

Created by  
**specialists**

Used by  
**everyone**

teach  
children to  
use it

Created by  
**everyone**

Used by  
**everyone**

teach  
children to  
create  
with it



**1956**

**1962**

**1986**

**1998**

**2011**

**first  
Artificial  
Intelligence  
conference**

**IBM  
speech  
recognition  
systems**

**Carnegie  
Mellon  
self-driving  
car**

**Amazon  
recommendation  
system**

**Apple  
Siri**



# Adoption of technology

Created by  
**specialists**

Created by  
**specialists**

Created by  
**everyone**

Used by  
**specialists**

Used by  
**everyone**

Used by  
**everyone**

learning  
that it  
exists

learning  
how to  
use it

learning  
how to  
create  
with it



```
37
38 self.file = open(os.path.join(job_dir, 'fingerprint.txt'), 'w')
39 self.file.seek(0)
40 self.fingerprints.update(e.request)
41
42 @classmethod
43 def from_settings(cls, settings):
44     debug = settings.getbool("SUPERFUTUR_DEBUG")
45     return cls(job_dir(settings), debug)
46
47 def request_seen(self, request):
48     fp = self.request_fingerprint(request)
49     if fp in self.fingerprints:
50         return True
51     self.fingerprints.add(fp)
52     if self.file:
53         self.file.write(fp + os.linesep)
54
55 def request_fingerprint(self, request):
56     return request_fingerprint(request)
```





# Adoption of technology

Created by  
**specialists**

Created by  
**specialists**

Created by  
**everyone**

Used by  
**specialists**

Used by  
**everyone**

Used by  
**everyone**

learning  
that it  
exists

learning  
how to  
use it

learning  
how to  
create  
with it





Image: [https://unsplash.com/photos/rectangular-brown-wooden-table-kN\\_kViDchA0](https://unsplash.com/photos/rectangular-brown-wooden-table-kN_kViDchA0)



# Adoption of technology

Created by  
**specialists**

Created by  
**specialists**

Created by  
**everyone**

Used by  
**specialists**

Used by  
**everyone**

Used by  
**everyone**

learning  
that it  
exists

learning  
how to  
use it

learning  
how to  
create  
with it





Image courtesy of Shutterstock (2220682101)





Image: <https://pikwizard.com/photo/link/14215b5ce3dd9e4a9ebff5d54560642a>

AutoSave OFF Book1

Home Insert Draw Page Layout **Formulas** Data Review View Automate Tell me

Insert Function Auto-sum Recently Used Financial Logical Text Date & Time Lookup & Reference Maths & Trig More Functions Name Manager Define Name Use in Formula Create from Selection Trace Precedents Trace Dependents Remove Arrows Show Formulas Error-checking Watch Window Calculation Options Calculate Now Calculate Sheet

TEXTBEF... fx =AVER

	A		D	E	F	G	H	I	J	K	L
3	529										
4	670		=AVER								
5	461										
6	828										
7	797										
8	740	4 BB									
9	19	76 A1									
10	372	2 A1									
11	644	15 A1									
12	485	11 A1									
13	858	51 D8									
14	263	60 A1									

Most Recently Used  
**AVERAGE**  
 Functions  
 AVERAGE  
 AVERAGEA  
 AVERAGEIF  
 AVERAGEIFS  
 DAVERAGE

Sheet1 160%



# Education about AI

Created by  
**specialists**

Used by  
**specialists**

teach  
children it  
exists

Created by  
**specialists**

Used by  
**everyone**

teach  
children to  
use it

Created by  
**everyone**

Used by  
**everyone**

teach  
children to  
create  
with it



Code

Costumes

Sounds



Motion



Looks



Sound



Events



Control



Sensing



Operators



Variables



My Blocks



Images



Scratch



show variable my variable

hide variable my variable

Make a List

My Blocks

Make a Block

Images

costume image

backdrop image

save screenshot to costume

imagenet

recognise image image (label)

Is the machine learning model ready to use

background

when clicked

say recognise image costume image (label)



Sprite bear

x -109

y 115

Show



Size 80

Direction 90

Stage

Backdrops



bear



baseball



dog





Code

Costumes

Sounds

Motion

Looks

Sound

Events

Control

Sensing

Operators

Variables

My Blocks

Images

Face detection

## Images

 costume image backdrop image

save screenshot to costume

## Face detection

size of nose

x coord of nose

y coord of nose

## Video Sensing

when video motion &gt; 10

video motion on sprite

turn video on

set video transparency to 50

when clicked

go to back layer

forever

set size to 3 \* size of nose %

set x to x coord of nose

set y to y coord of nose



Sprite nose

x -72

y 49

Show

Size 29

Direction 90



nose



left eye



right eye

Stage

Backdrops

1

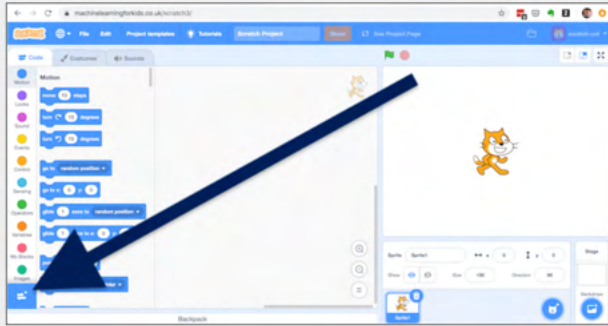
## How to use

Get started

Click on the button to go to Scratch.

Go to the version of [Scratch 3](#) available from Machine Learning for Kids.

Pre-trained models are available from the Extensions panel. Click on the blue extensions button in the bottom-left of the Scratch window to find them, then click on the one you want to add to your project.



The blocks for the pre-trained model will be added to the Scratch toolbox.

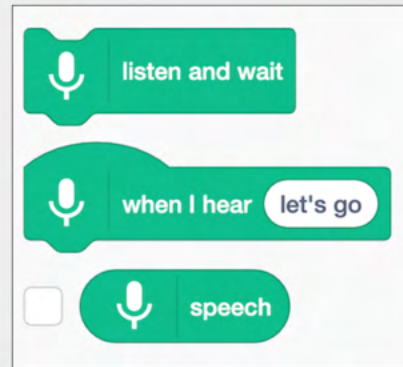
Are there other machine learning models you would like to be able to use in your Scratch projects?

Let me know by asking in the [ML for Kids forum](#).

## Speech to text

This model can be used to recognize speech recorded through your microphone.

It gives you a block you can use to record some audio and then give you the text that it recognized, and a block that you can tell it to listen out for a particular word or phrase.

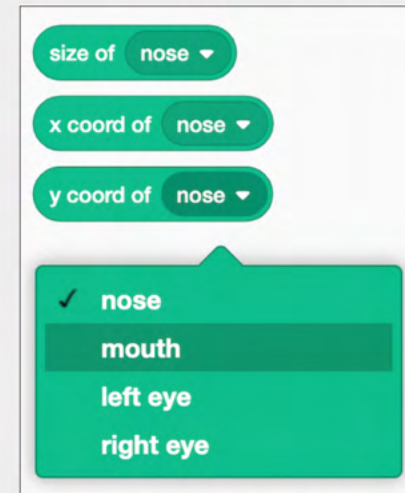


It uses the speech recognition capability that comes with Google Chrome, so the ML model that you'll be using comes from Google. (It also means that you can only use this model if you're using the Google Chrome web browser, sorry!)

## Face detection

This model can be used to recognize your face in the video feed from your webcam.

It gives you blocks that will find the x,y coordinates of your eyes, nose and mouth.



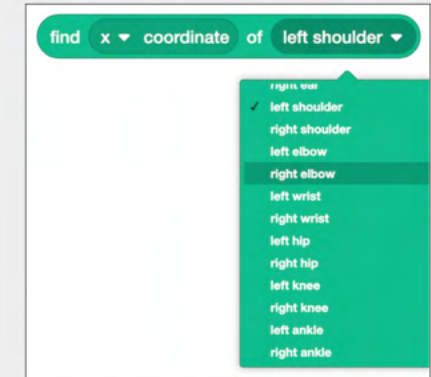
This uses a top-down technique - it starts by looking for something that looks like a face in the picture. Once it has found that, it tries to identify facial features in that area. The machine learning model is based on MobileNet (a ML model designed for mobile devices, so it doesn't need much computing power).

The training data used for this model came from a set known as [WIDER FACE](#).

## Pose detection

This model can be used to recognize your pose in the video feed from your webcam.

It gives you blocks that will find the x,y coordinates of different parts of your body, like shoulders, elbows, wrists, knees, and ankles.



This uses a bottom-up technique - looking for human body key points (like shoulders, elbows, knees, etc.) and then grouping them to identify a person and the pose that they're in.

The training data used for this model came from a set known as [Common Objects in Context \(COCO\)](#).

For more information, including a description of some of the challenges and potential issues with the model, see the [model card](#).

## Hand detection

This model can be used to recognize your hand in the video feed from your

## Toxicity

This model can be used to recognize whether text contains toxic content.

## Imagenet

This model can be used to recognize objects in a costume.

## Question Answering

## Pitch estimation

This model can be used to recognize a note being sung from your computer's





# Start a new machine learning project

Project Name \*

my new project

Recognising \*

text

What type of thing do you want to teach the computer to recognise?

For words, sentences or paragraphs, choose "text"

For photos, diagrams and pictures, choose "images"

For sets of numbers or multiple choices, choose "numbers"

For voices and sounds, choose "sounds"

Language

English





# Recognising **text** as **distance, size or 2 other classes**

[< Back to project](#)

+ Add new label

## distance

How far are you?

How far away is the moon?

Where are you?

What's the distance from the Earth to...

what is the distance to the moon?

+ Add example

5

## size

How big is the moon?

What is the diameter of the moon?

what's the moon's radius?

How big are you?

How big is the moon compared with t...

+ Add example

5

## temperature

How hot is it on the moon?

Is it very cold on the moon?

What is the temperature on the Moon?

How cold are you?

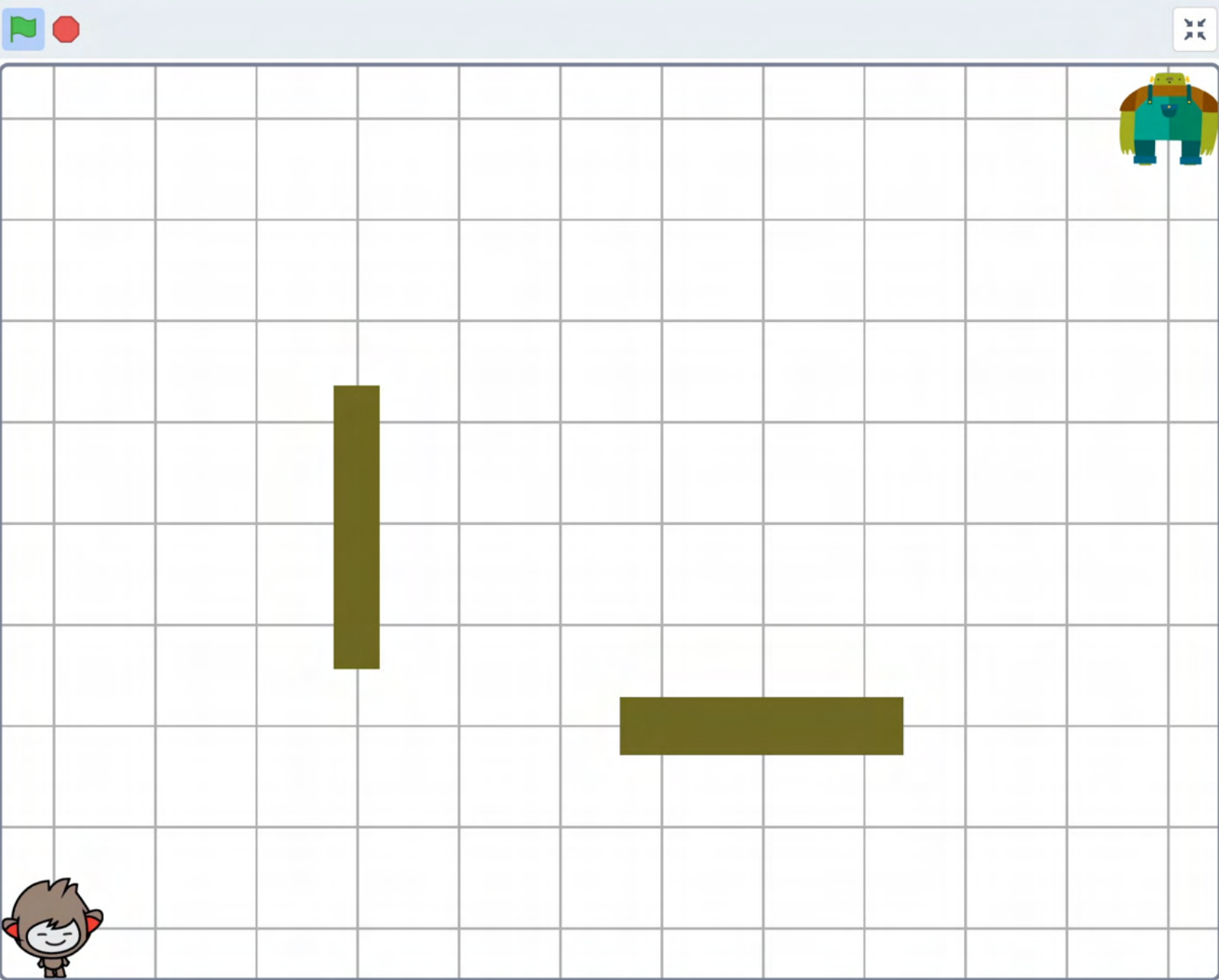
Does it get very cold?

+ Add example

5

## made\_of





  
**enemy**

**student**





# Recognising **numbers** as **up, down or 2 other classes**

[< Back to project](#)

+ Add new label

**up**

character x 3	character x 3
character y 2	character y 1
enemy x 10	enemy x 11
enemy y 8	enemy y 8

character x 3
character y 3
enemy x 10
enemy y 7

+ Add example

3

**down**

character x 1	character x 1
character y 3	character y 4
enemy x 7	enemy x 8
enemy y 6	enemy y 6

+ Add example

2

**left**

character x 2	character x 3
character y 4	character y 4
enemy x 8	enemy x 9
enemy y 7	enemy y 7

+ Add example

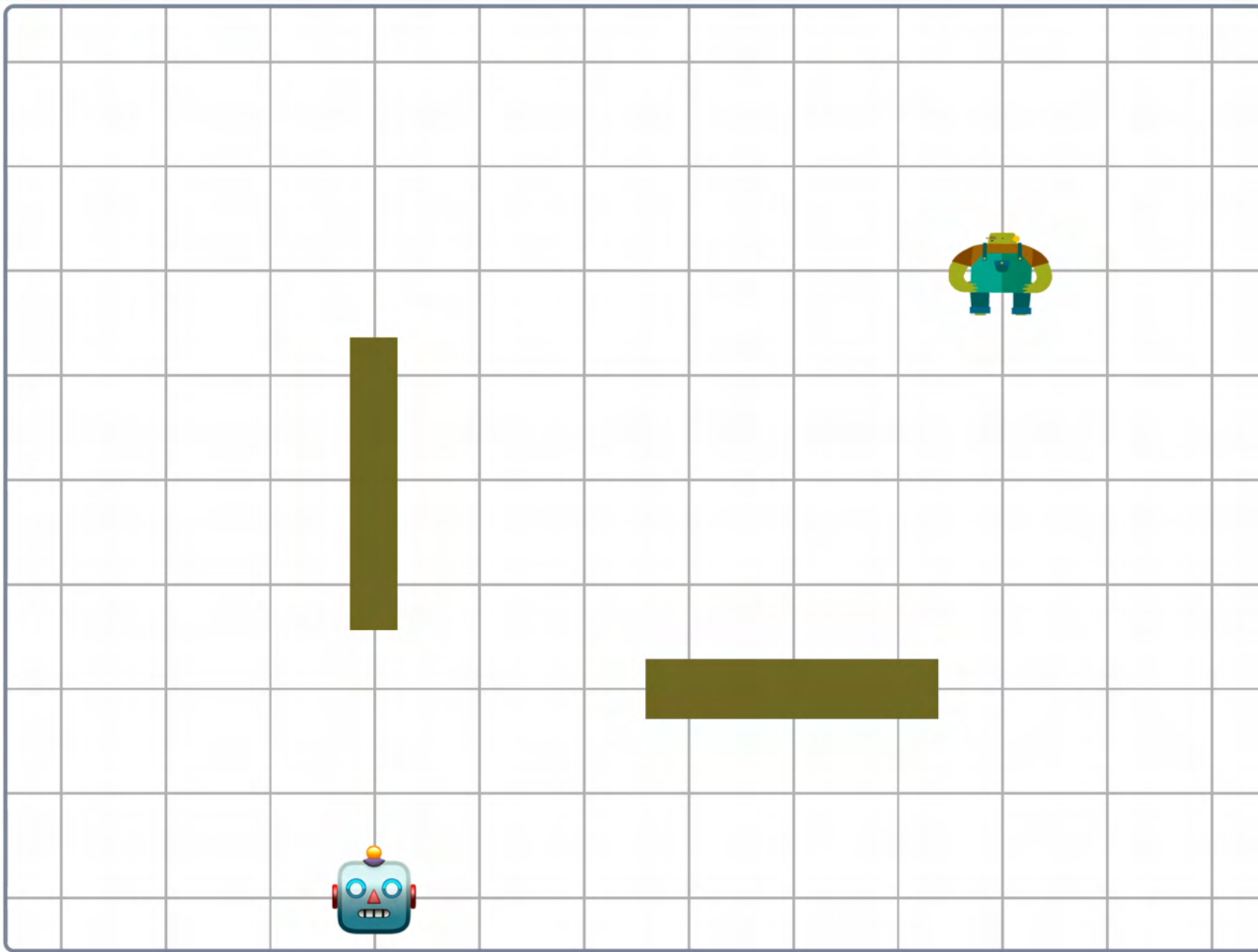
2

**right**

character x 1	character x 2
character y 1	character y 1
enemy x 12	enemy x 12
enemy y 9	enemy y 8

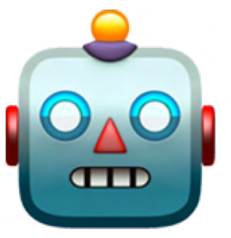
+ Add example

2



enemy

A.I.



# Recognising **numbers** as **up, down or 2 other classes**

[< Back to project](#)

+ Add new label

## up

character x 5 character y 2 enemy x 9 enemy y 7	character x 3 character y 1 enemy x 11 enemy y 8
character x 5 character y 6 enemy x 5 enemy y 2	character x 5 character y 4 enemy x 7 enemy y 2
character x 1 character y 6 enemy x 1 enemy y 2	character x 5 character y 3 enemy x 8 enemy y 2
character x 5 character y 5 enemy x 6 enemy y 2	character x 1 character y 5 enemy x 1 enemy y 2

+ Add example

36

## down

character x 5 character y 2 enemy x 6 enemy y 7	character x 3 character y 4 enemy x 5 enemy y 4
character x 3 character y 6 enemy x 5 enemy y 6	character x 5 character y 3 enemy x 5 enemy y 7
character x 3 character y 5 enemy x 5 enemy y 5	character x 5 character y 4 enemy x 4 enemy y 7
character x 5 character y 6 enemy x 3 enemy y 6	character x 1 character y 4 enemy x 8 enemy y 6

+ Add example

28

## left

character x 3 character y 4 enemy x 9 enemy y 7	character x 2 character y 4 enemy x 8 enemy y 7
character x 8 character y 2 enemy x 10 enemy y 4	character x 5 character y 2 enemy x 9 enemy y 2
character x 7 character y 2 enemy x 10 enemy y 3	character x 9 character y 2 enemy x 9 enemy y 4
character x 3 character y 7 enemy x 5 enemy y 5	character x 4 character y 7 enemy x 5 enemy y 4

+ Add example

31

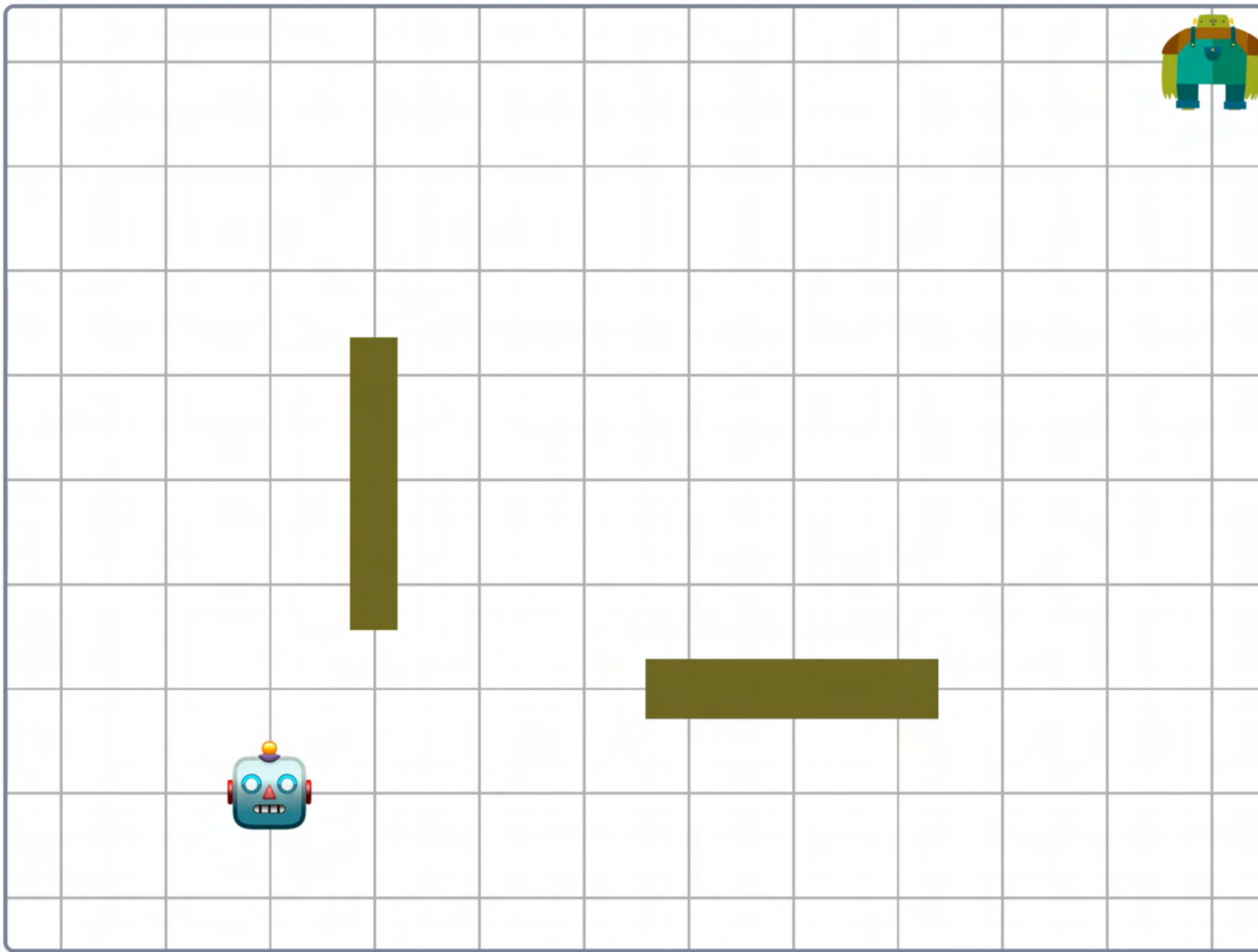
## right

character x 2 character y 1 enemy x 12 enemy y 8	character x 2 character y 1 enemy x 12 enemy y 8
character x 3 character y 1 enemy x 11 enemy y 8	character x 5 character y 7 enemy x 5 enemy y 6
character x 4 character y 1 enemy x 10 enemy y 8	character x 1 character y 1 enemy x 4 enemy y 3
character x 3 character y 7 enemy x 1 enemy y 5	character x 4 character y 7 enemy x 1 enemy y 6

+ Add example

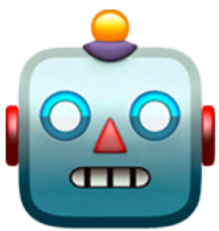
34





enemy

A.I.



# Recognising **numbers** as **up, down or 2 other classes**

[< Back to project](#)[+ Add new label](#)

## up

character x 5	character x 1	character x 1
character y 7	character y 2	character y 3
enemy x 5	enemy x 3	enemy x 3
enemy y 3	enemy y 3	enemy y 2
character x 1	character x 1	character x 1
character y 7	character y 7	character y 8
enemy x 1	enemy x 2	enemy x 2
enemy y 3	enemy y 3	enemy y 4
character x 5	character x 5	character x 2
character y 3	character y 5	character y 2
enemy x 8	enemy x 6	enemy x 7
enemy y 2	enemy y 2	enemy y 6
character x 2	character x 2	character x 2
character y 3	character y 5	character y 6
enemy x 6	enemy x 5	enemy x 5
enemy y 6	enemy y 5	enemy y 4
character x 3	character x 2	character x 2
character y 2	character y 4	character y 7
enemy x 10	enemy x 6	enemy x 5
enemy y 8	enemy y 5	enemy y 3
character x 3	character x 1	character x 1

[+ Add example](#)

90

## down

character x 5	character x 5	character x 5
character y 4	character y 5	character y 2
enemy x 4	enemy x 3	enemy x 6
enemy y 7	enemy y 7	enemy y 7
character x 3	character x 5	character x 5
character y 5	character y 6	character y 3
enemy x 5	enemy x 3	enemy x 5
enemy y 5	enemy y 6	enemy y 7
character x 3	character x 3	character x 3
character y 6	character y 4	character y 6
enemy x 5	enemy x 5	enemy x 5
enemy y 6	enemy y 4	enemy y 3
character x 5	character x 10	character x 8
character y 6	character y 4	character y 5
enemy x 3	enemy x 6	enemy x 5
enemy y 3	enemy y 7	enemy y 7
character x 8	character x 8	character x 10
character y 2	character y 5	character y 3
enemy x 8	enemy x 5	enemy x 7
enemy y 5	enemy y 7	enemy y 7
character x 8	character x 8	character x 10

[+ Add example](#)

71

## left

character x 4	character x 3	character x 3
character y 7	character y 2	character y 7
enemy x 5	enemy x 6	enemy x 5
enemy y 4	enemy y 4	enemy y 5
character x 8	character x 7	character x 5
character y 2	character y 2	character y 2
enemy x 9	enemy x 10	enemy x 8
enemy y 5	enemy y 4	enemy y 4
character x 3	character x 3	character x 6
character y 4	character y 2	character y 2
enemy x 9	enemy x 8	enemy x 10
enemy y 7	enemy y 4	enemy y 2
character x 8	character x 6	character x 5
character y 2	character y 2	character y 2
enemy x 9	enemy x 8	enemy x 7
enemy y 6	enemy y 5	enemy y 5
character x 7	character x 8	character x 5
character y 2	character y 2	character y 2
enemy x 10	enemy x 9	enemy x 9
enemy y 3	enemy y 4	enemy y 2
character x 9	character x 9	character x 6

[+ Add example](#)

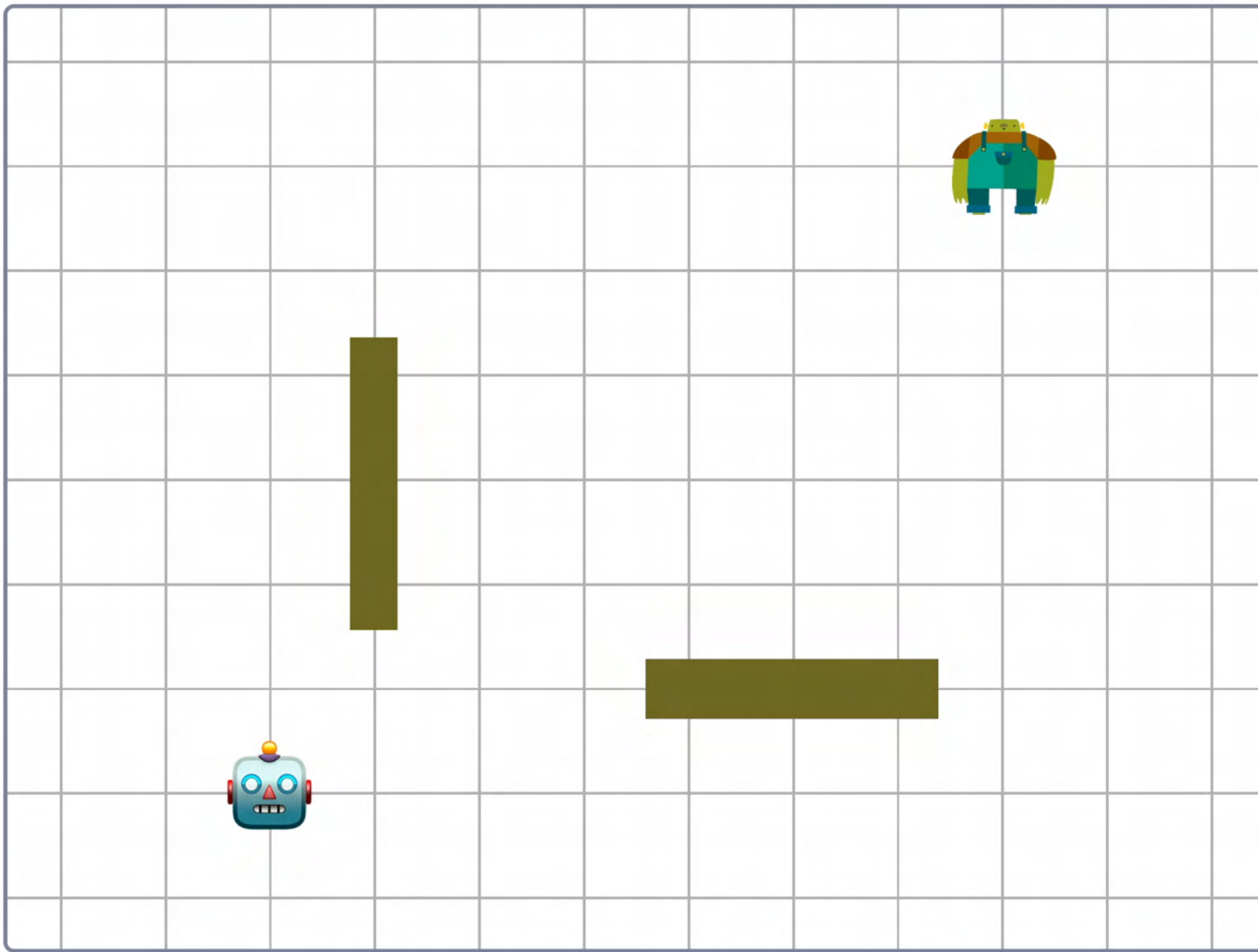
98

## right

character x 10	character x 7	character x 9
character y 5	character y 2	character y 2
enemy x 6	enemy x 6	enemy x 7
enemy y 6	enemy y 5	enemy y 4
character x 10	character x 2	character x 4
character y 2	character y 8	character y 8
enemy x 8	enemy x 1	enemy x 1
enemy y 4	enemy y 4	enemy y 5
character x 2	character x 1	character x 5
character y 1	character y 1	character y 8
enemy x 12	enemy x 8	enemy x 5
enemy y 8	enemy y 7	enemy y 3
character x 6	character x 9	character x 1
character y 8	character y 8	character y 1
enemy x 5	enemy x 6	enemy x 6
enemy y 4	enemy y 6	enemy y 5
character x 5	character x 8	character x 3
character y 7	character y 6	character y 8
enemy x 2	enemy x 3	enemy x 1
enemy y 6	enemy y 6	enemy y 4
character x 5	character x 2	character x 6

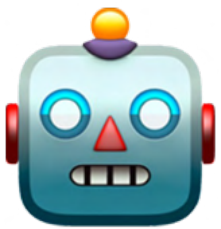
[+ Add example](#)

45



enemy

A.I.



ML



# Recognising **text** as **turn on a lamp** or **turn on a fan**

[< Back to project](#)

**+** Add new label

## turn on a lamp

Can we get some light in here?

It's too dark

light on!

Please turn on the light

**+** Add example

4

## turn on a fan

Please turn the fan on

Could you switch the fan on?

Let's get some air in here

I'm too hot!

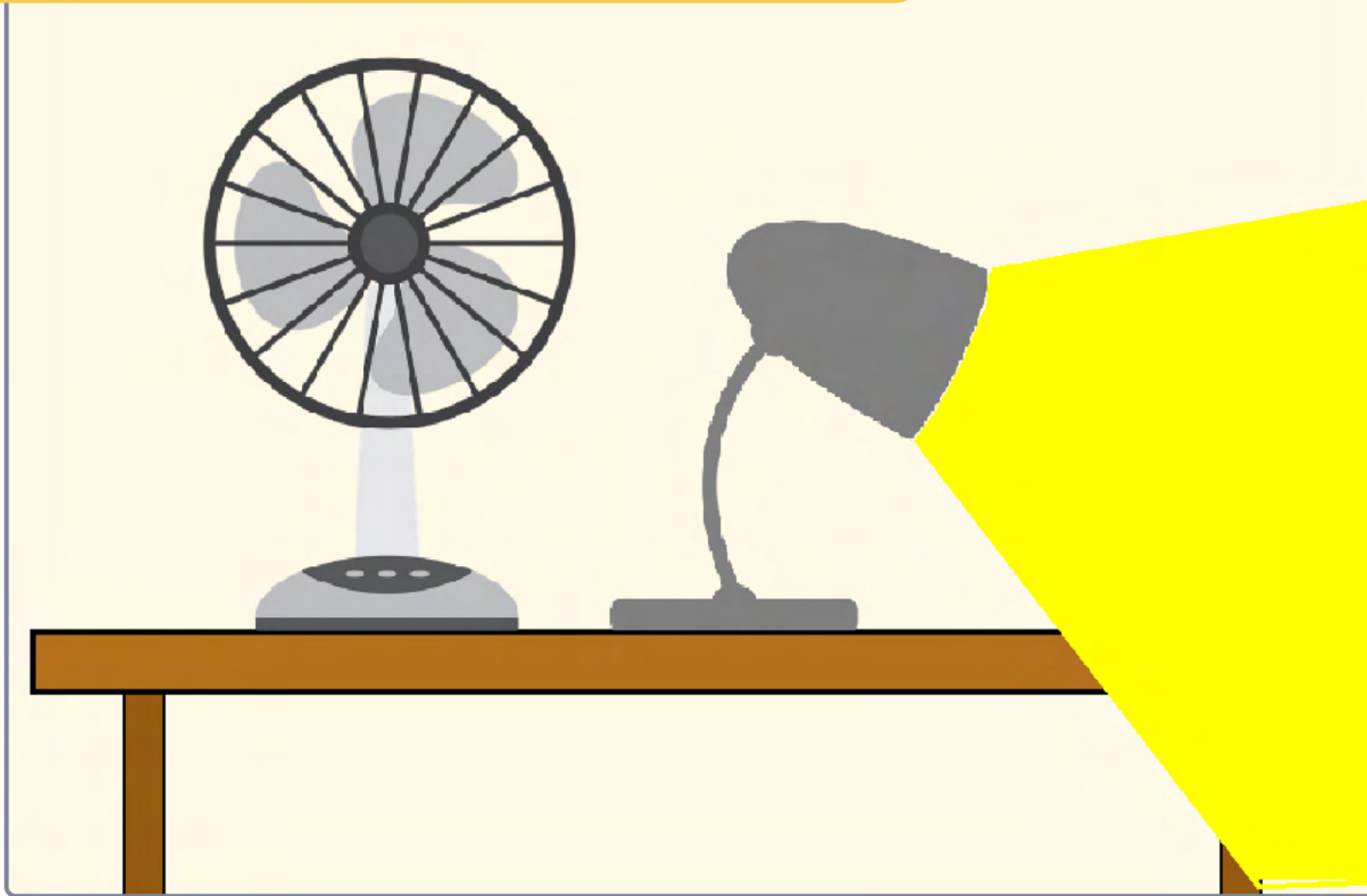
fan on

**+** Add example

5



**“Activate the spinny thing!”**





# Recognising **text** as **turn on a lamp** or **turn on a fan**

[< Back to project](#)[+ Add new label](#)

## turn on a lamp

Can we get some light in here?

It's too dark

light on!

Please turn on the light

[+ Add example](#)

4

## turn on a fan

Please turn the fan on

Could you switch the fan on?

Let's get some air in here

I'm too hot!

fan on

[+ Add example](#)

5





# “activate the spinny thing!”

< Back to project

+ Add new label

## turn on a lamp

Can we get some light in here?    It's too dark

light on!    Please turn on the light

+ Add example

4

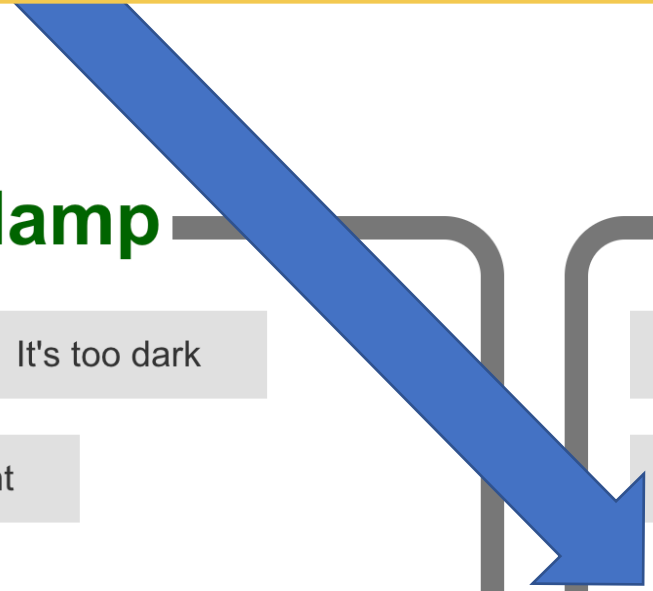
## turn on a fan

Please turn the fan on    Could you switch the fan on?

Let's get some air in here    I'm too hot!    fan on

+ Add example

5





# Recognising **text** as **turn on a lamp** or **turn on a fan**

[< Back to project](#)

+ Add new label

## turn on a lamp

Can we get some light in here? It's too dark light on!

Please turn on the light I want the lamp on

I can't see anything It's a bit dark in here

It's getting late, let's put the lights on mind putting on a light?

Illuminate the darkness! Please turn on the lights

lamp on turn on the lights please switch on a light

+ Add example

14

## turn on a fan

Please turn the fan on Could you switch the fan on?

Let's get some air in here I'm too hot! fan on

activate the spinny thing! I'm melting! more air please

Would you mind turning on the fan for me? fan on now

I want the fan on Can we get the aircon going?

more air I want more air air now turn on the fan

+ Add example

16





# Amazon employees listen to customers through Echo products, report finds

Ben Tobin | USA TODAY  
Published 3:46 PM EDT Apr 11, 2019

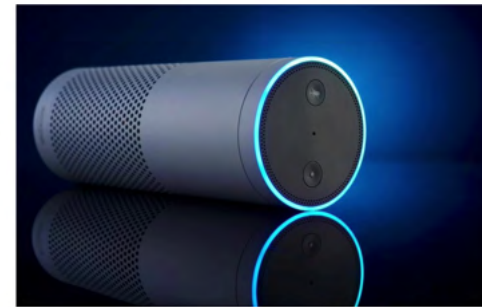
If you have an Amazon Echo product, you aren't the only person privy to your private conversations.

Thousands of people across the globe are employed by Amazon.com to listen to Echo recordings, transcribe and annotate them and feed them back to the software so that Alexa can better grasp human speech, according to a report from Bloomberg.

The employees – ranging from Boston to India – signed nondisclosure agreements barring them to speak publicly about the program. According to Bloomberg, they work nine hours per day, with each reviewer going through as many as 1,000 audio clips per shift.

# Amazon Staff Are Listening To Alexa Conversations -- Here's What To Do

Kate O'Flaherty Senior Contributor @ Cybersecurity  
I'm a cybersecurity journalist.



Amazon employs thousands of people around the world to listen to voice recordings captured in Echo... [+] GETTY

# Amazon reportedly employs thousands of people to listen to your Alexa conversations

By Jordan Valinsky, CNN Business  
Updated 1838 GMT (0238 HKT) April 11, 2019



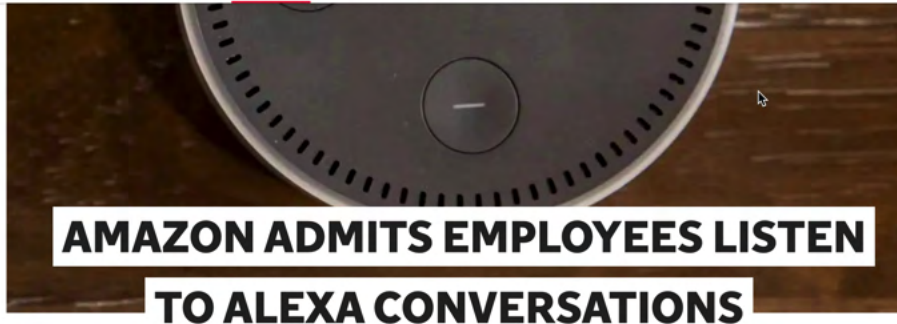
TOP STORIES

- New report on first US case of novel coronavirus details mild symptoms...
- Yes, things are worse now than ever before

Recommended by @outbrain

vimeo

## Storage that keeps



# AMAZON ADMITS EMPLOYEES LISTEN TO ALEXA CONVERSATIONS

Anthony Cuthbertson | @ADCuthbertson |  
Thursday 11 April 2019 13:30

Amazon has admitted that employees listen to customer voice recordings from Echo and other Alexa-enabled smart speakers.

The online retail giant said its staff "reviewed" a sample of Alexa voice assistant conversations in order to improve speech recognition.

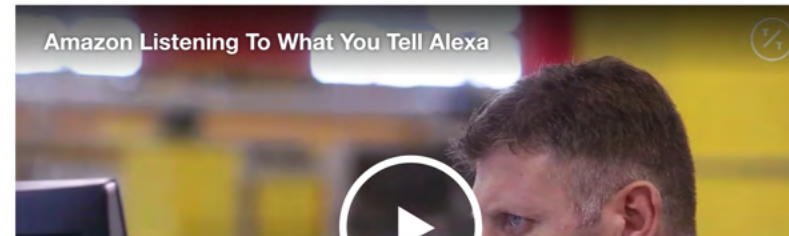


Search

# Technology Amazon Workers Are Listening To What You Tell Alexa

A global team reviews audio clips in an effort to help the assistant respond to commands.

By Matt Day, Giles Turner, and Natalia Drozdiak  
10 April 2019, 23:34 BST



# Amazon workers are listening to what you tell Alexa

BY AIMEE PICCHI  
UPDATED ON: APRIL 11, 2019 / 12:35 PM / MONEYWATCH



## What have you done?

You have trained a machine learning model to recognise when text is fan or lamp.

You created the model on Friday, November 18, 2022 9:26 PM.

You have collected:

- 10 examples of fan,
- 10 examples of lamp

## What's next?

Try testing the machine learning model below. Enter an example of text below, that you didn't include in the examples you used to train it. It will tell you what it recognises it as, and how confident it is in that.

If the computer seems to have learned to recognise things correctly, then you can go to Scratch and use what the computer has learned to make a game!

If the computer is getting too many things wrong, you might want to go back to the [Train](#) page and collect some more examples

Once you've done that, click on the button below to train a new machine learning model and see what difference the extra examples will make!

Try putting in some text to see how it is recognised based on your training.

Test

Describe your model! **beta**

Recognised as **fan**  
with 85% confidence



**Looks**

- say Hello! for 2 seconds
- say Hello!
- think Hmm... for 2 seconds
- think Hmm...
- switch costume to costume1
- next costume
- switch backdrop to backdrop1
- next backdrop
- change size by 10
- set size to 100 %

```

when clicked
  forever
    ask Enter your command and wait
    if recognise text answer (confidence) < 50 then
      say I'm sorry, I don't understand! for 2 seconds
    else
      if recognise text answer (label) = fan_on then
        broadcast turn-fan-on
      if recognise text answer (label) = fan_off then
        broadcast turn-fan-off
      if recognise text answer (label) = lamp then
        broadcast turn-lamp-on
      if recognise text answer (label) = lamp then
  
```

Stage area with zoom controls (fit, zoom in, zoom out)

Stage background showing a fan and a lamp. A speech bubble says "Enter your command". Below is a text input field with a checkmark button.

Sprite area showing "classroom" selected. Dimensions: x: 188, y: 148. Size: 60. Direction: 90. Backdrops: 1.

- Motion
- Looks
- Sound
- Events
- Control
- Sensing
- Operators
- Variables
- My Blocks
- Images
- ML
- ML

### My Blocks

Make a Block

### Images

costume image

backdrop image

save screenshot to costume

### alexa-text

ML recognise text text (label)

ML recognise text text (confidence)

ML fan

ML lamp

ML add training data text fan

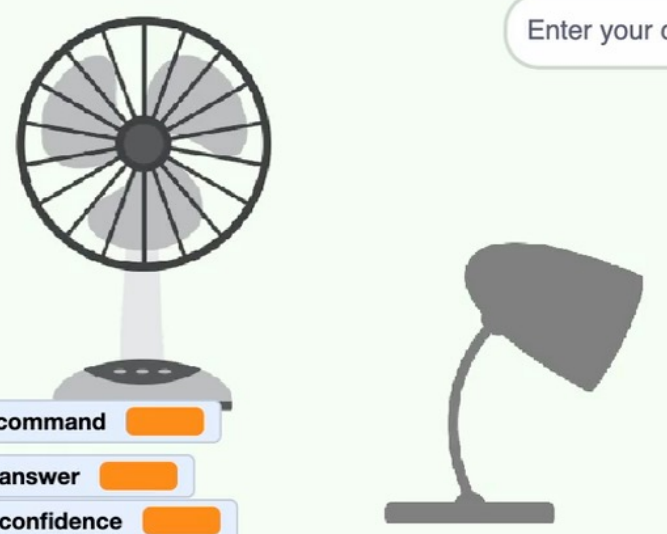
ML train new machine learning model

ML Is the machine learning model read

```

when clicked
  forever
    ask Enter your command and wait
    set command to answer
    set answer to ML recognise text command (label)
    set confidence to ML recognise text command (confidence)
    if confidence < 20 then
      say I'm sorry, I don't understand for 2 seconds
    else
      if answer = ML fan then
        broadcast turn-fan-on
      if answer = ML lamp then
        broadcast turn-lamp-on
  
```

Enter your command



command

answer

confidence

Sprite classroom x 188 y 148

Show Size 60 Direction 90

classroom fan lamp

Stage

Backdrops 1

**My Blocks**

Make a Block

**Images**

costume image

backdrop image

save screenshot to costume

**alexa-text**

recognise text text (label)

recognise text text (confidence)

fan

lamp

add training data text fan

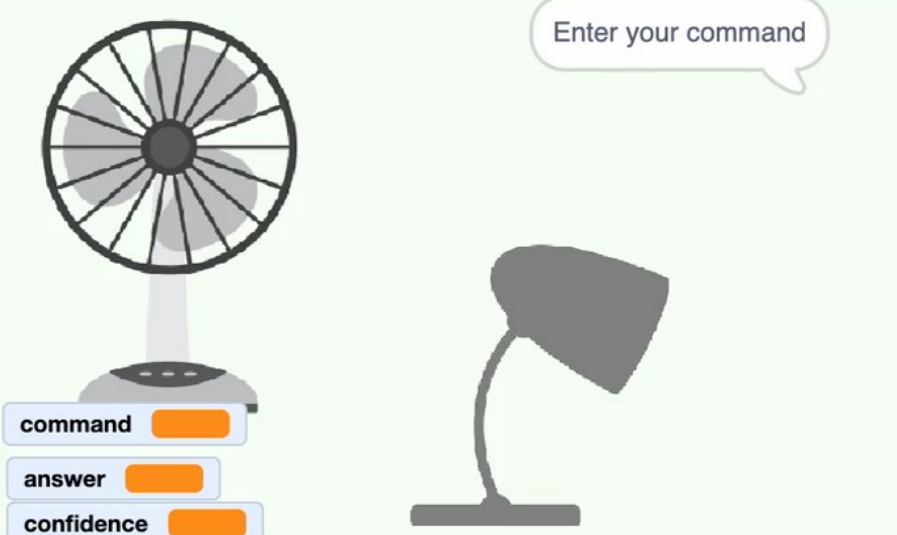
train new machine learning model

Is the machine learning model read

```

when clicked
  forever
    ask Enter your command and wait
    set command to answer
    set answer to recognise text command (label)
    set confidence to recognise text command (confidence)
    if confidence < 90 then
      say I'm sorry, I don't understand for 2 seconds
    else
      if answer = fan then
        broadcast turn-fan-on
      if answer = lamp then
        broadcast turn-lamp-on
  
```

Enter your command



command

answer

confidence

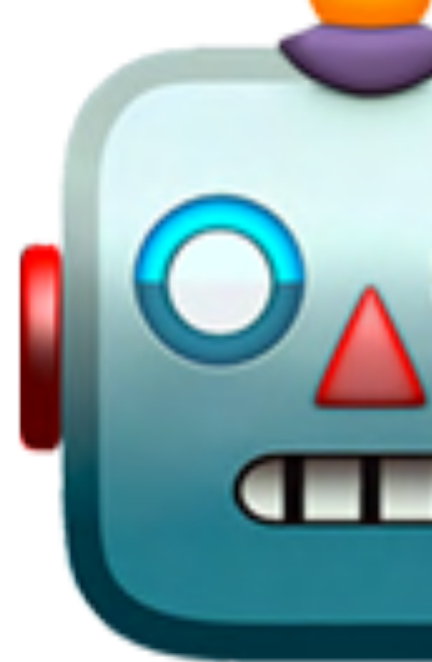
Enter your command

Sprite classroom x 188 y 148

Show Size 60 Direction 90

classroom fan lamp

Backdrops 1

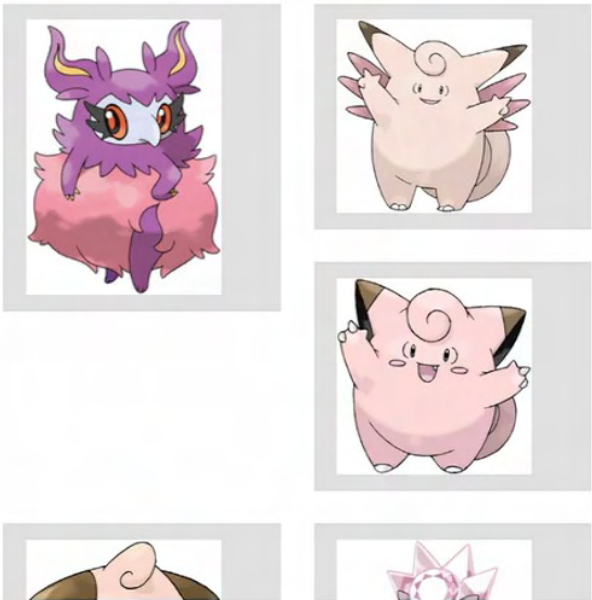


# Recognising **images** as **fairy, rock or 4 other classes**

[< Back to project](#)

+ Add new label

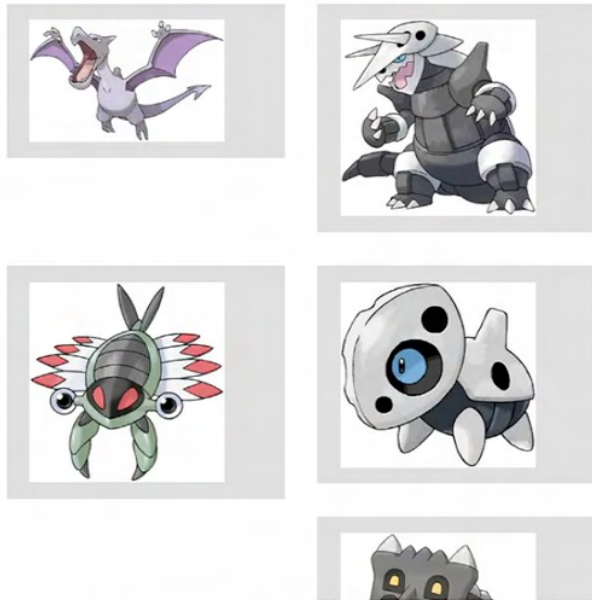
## fairy



[www](#) [webcam](#) [draw](#)

14

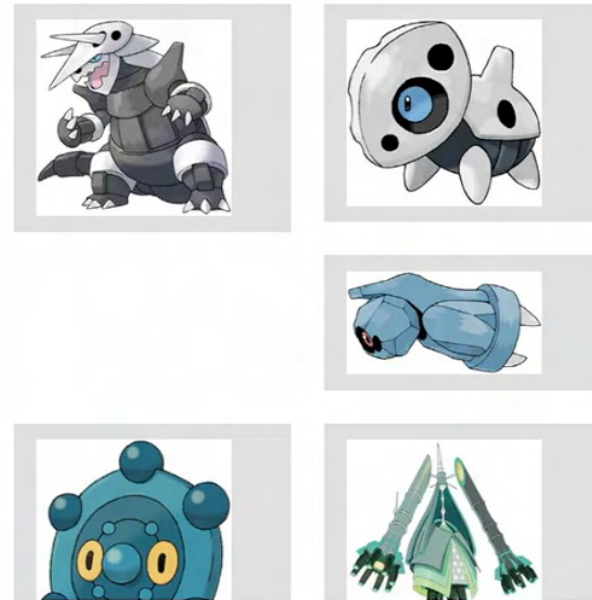
## rock



[www](#) [webcam](#) [draw](#)

27

## steel



[www](#) [webcam](#) [draw](#)

19



name **Blaziken**

Drag a Pokémon onto the red mat, then click here

prediction **electric**







name **Magikarp**

prediction **fire**

Drag a Pokémon onto the red mat, then click here

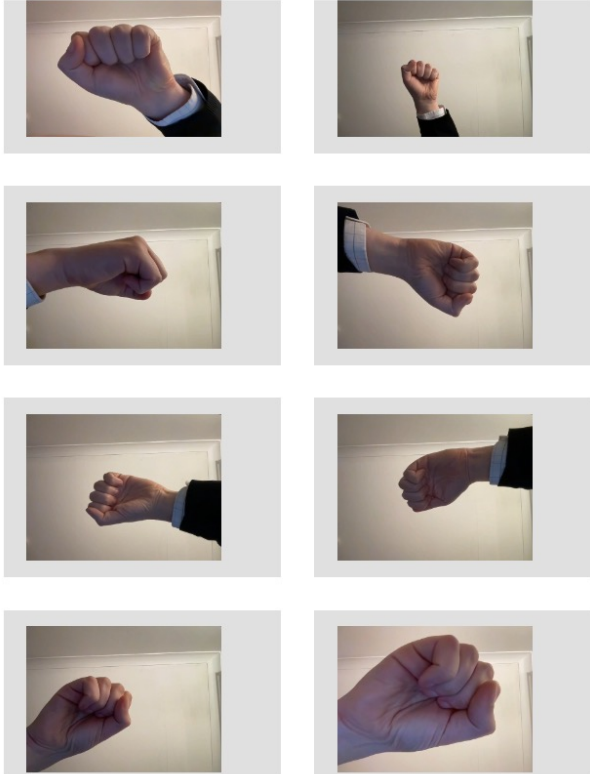


# Recognising **images** as **rock, paper or scissors**

< Back to project

+ Add new label

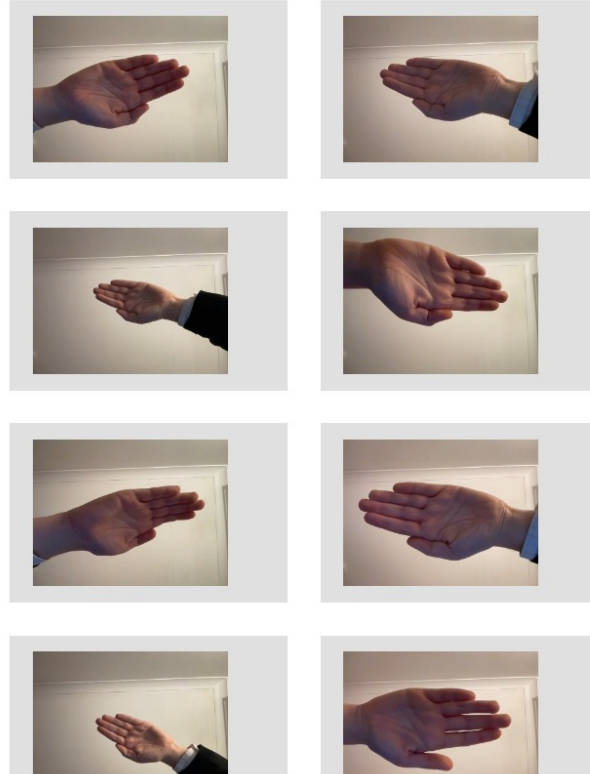
## rock



[www](#) [webcam](#) [draw](#)

15

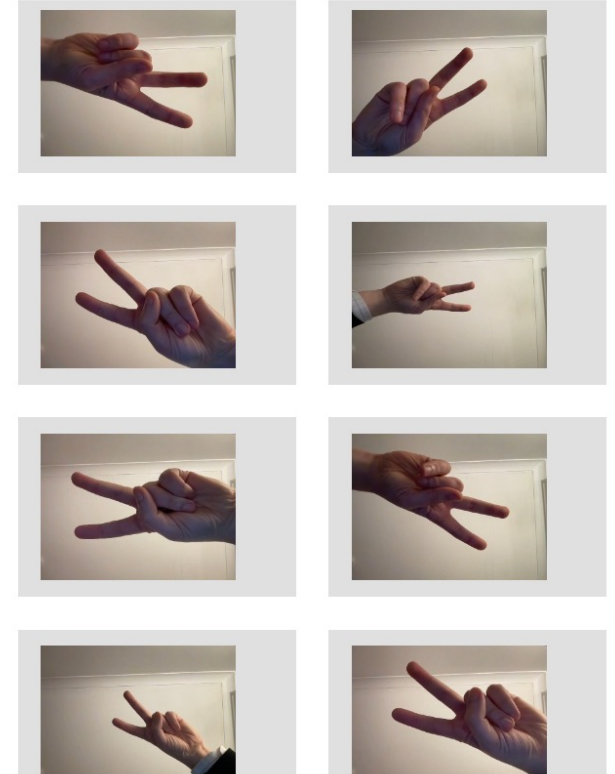
## paper



[www](#) [webcam](#) [draw](#)

16

## scissors

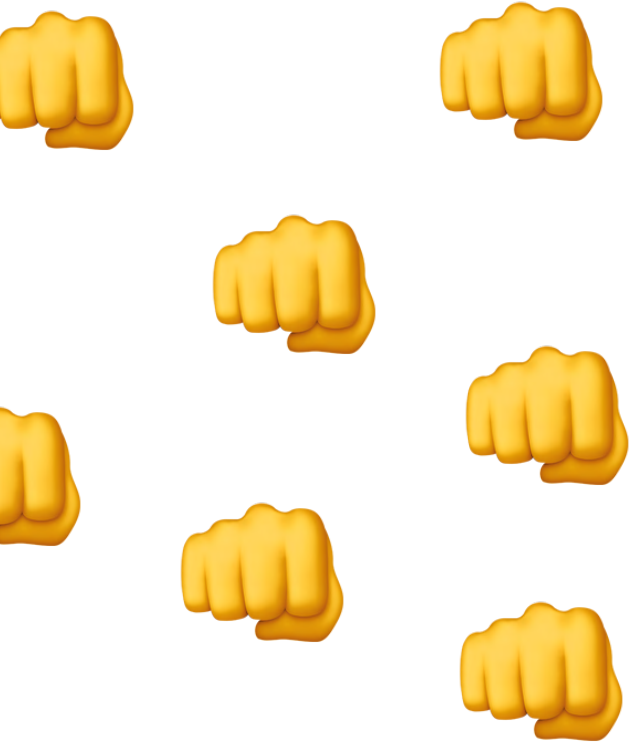


[www](#) [webcam](#) [draw](#)

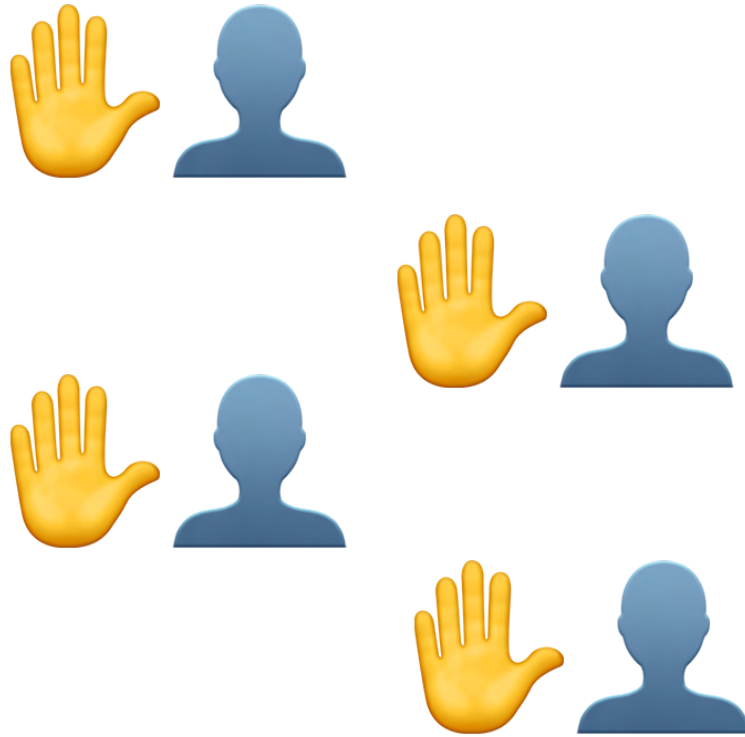
14



**rock**



**paper**



**scissors**

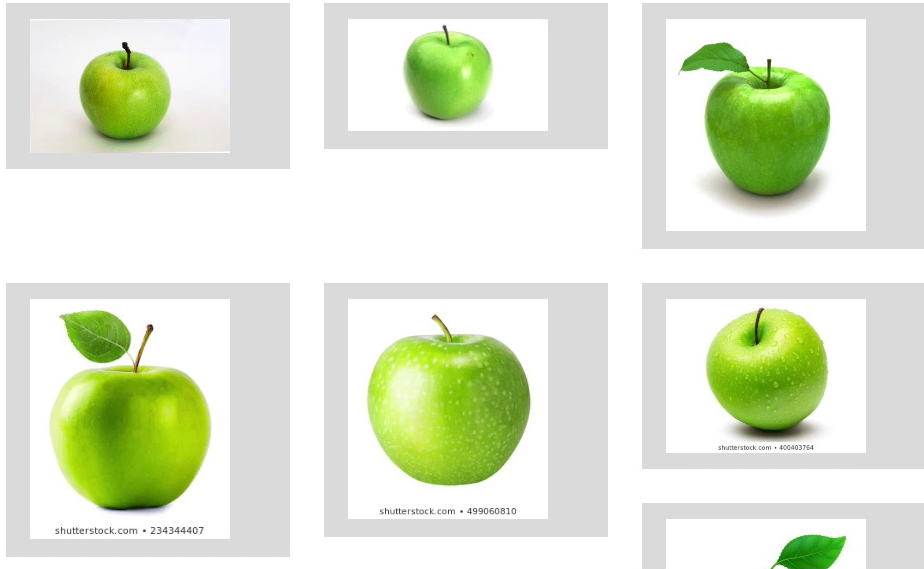


# Recognising **images** as **apple or tomato**

< Back to project

+ Add new label

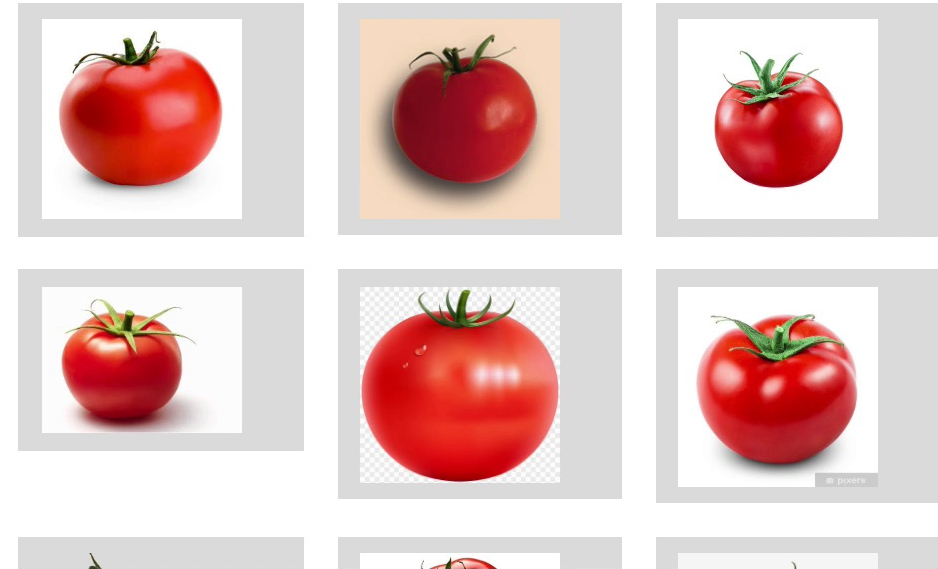
## apple



[www](#) [webcam](#) [draw](#)

10

## tomato




[www](#) [webcam](#) [draw](#)

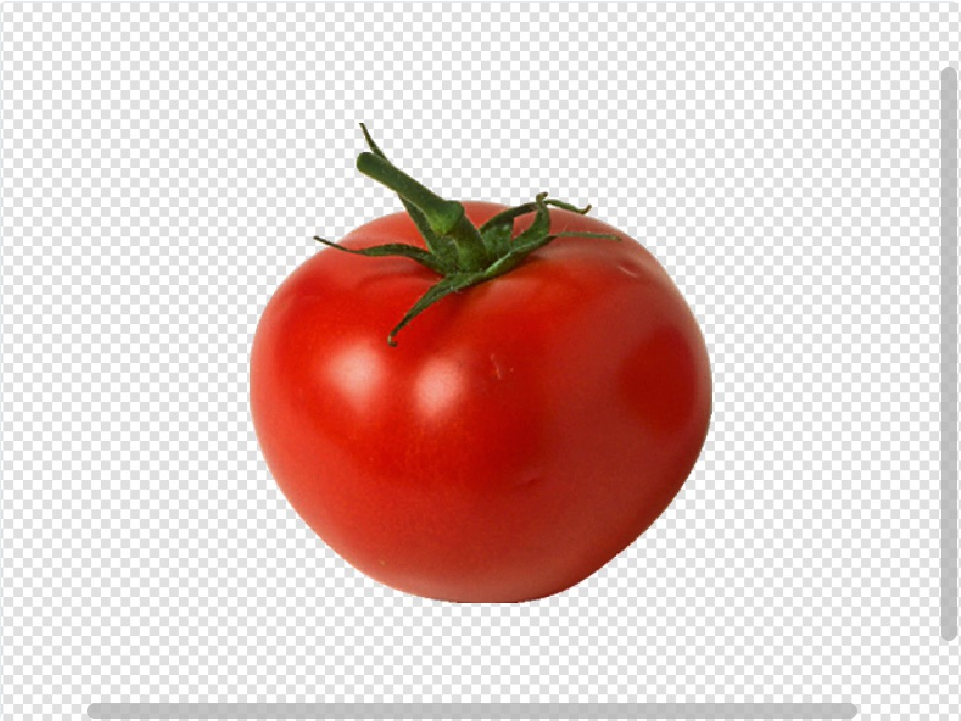
10

- tomato-2  
400 x 319
- 3  
tomato-7  
200 x 200
- 4  
tomato-3  
400 x 286
- 5  
tomato-8  
400 x 229
- 6  
tomato-4  
200 x 203
- 7  
apple-4
- 8

Costume: tomato-1

Fill: 

Copy Paste Delete Flip Horizontal Flip Vertical



Convert to Vector

Your machine learning model thinks that these photos look like apples.

Your machine learning model thinks that these photos look like tomatoes.

results

0 correct

0 incorrect

Sprite: test x: -207 y: -66

Show:   Size: 40 Direction: 90

test


Stage

Backdrops


Code | Costumes | Sounds

- tomato-8  
400 x 229
- 6  
tomato-4  
200 x 203
- 7  
apple-4  
200 x 195
- 8  
tomato-5  
400 x 267
- 9  
apple-5  
200 x 200
- 10  
tomato-6
- 11






Costume: **apple-5**

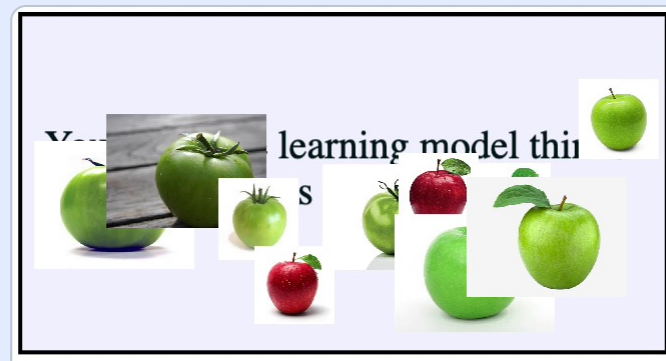
Fill: 

Copy Paste Delete Flip Horizontal Flip Vertical



Convert to Vector

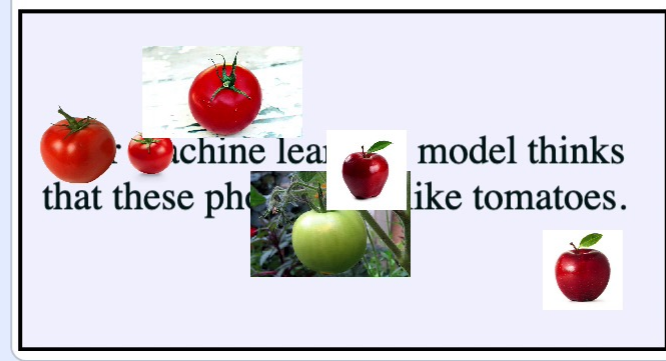
Stage icons:     



**results**

10 correct

6 incorrect




Sprite: **test** x: -207 y: -66

Show:   Size: 40 Direction: 90

 test

**Stage**



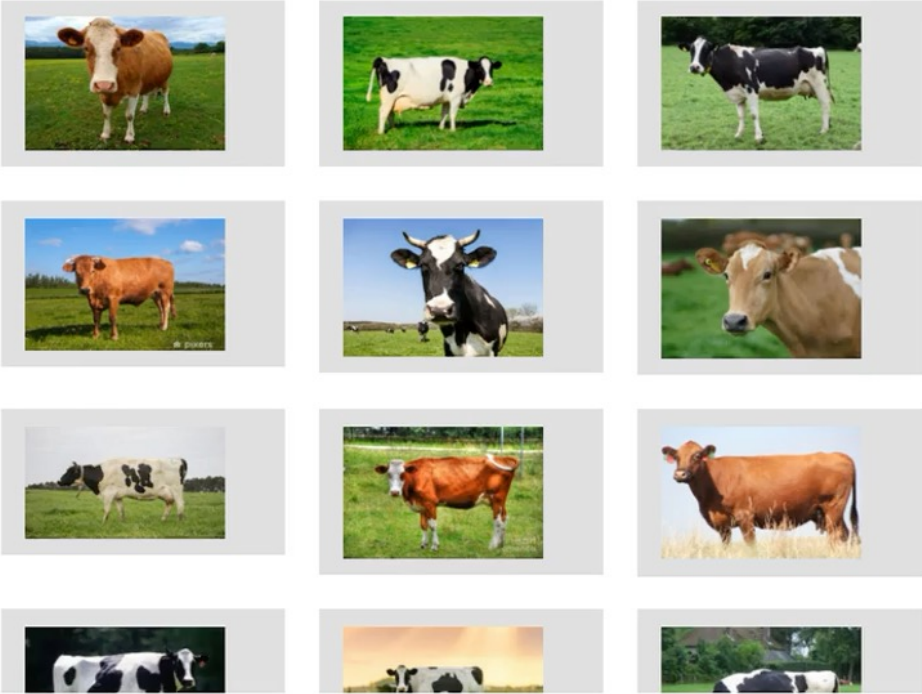


# Recognising **images** as **cow or sheep**

< Back to project

+ Add new label

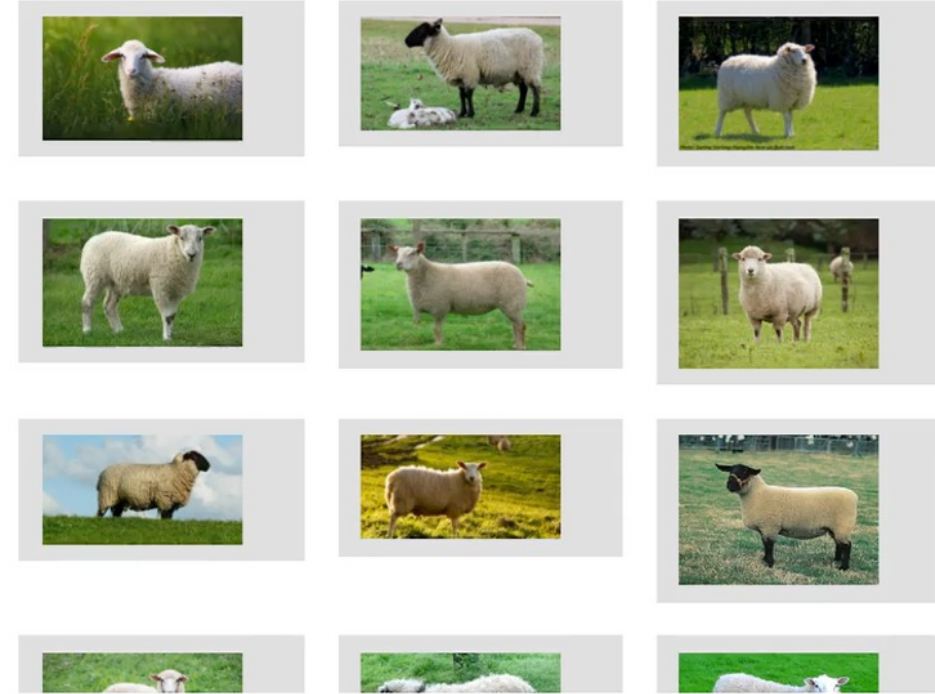
## COW



www webcam draw

14

## sheep



www webcam draw

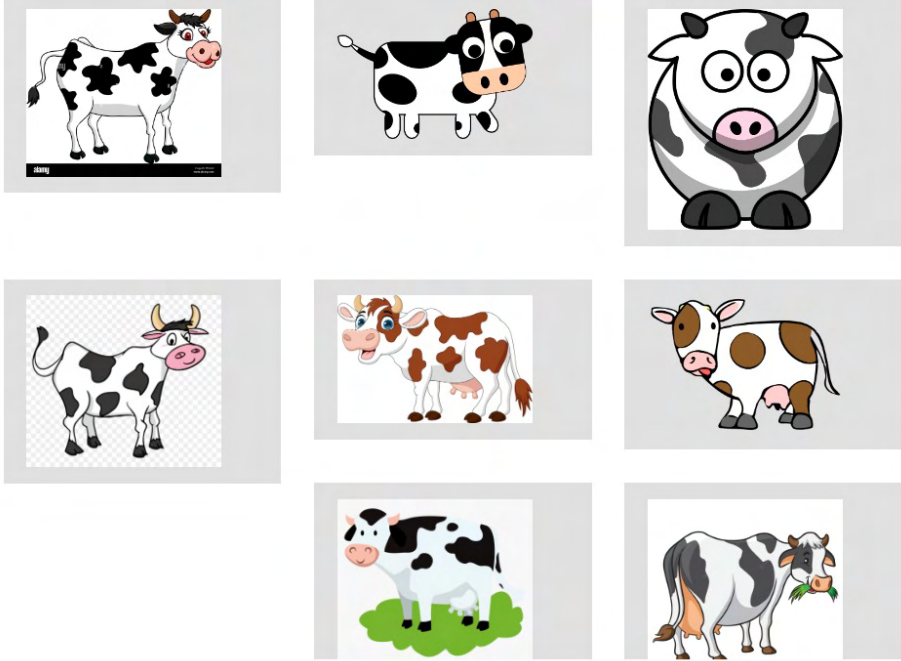
14

# Recognising images as cow or sheep

< Back to project

+ Add new label

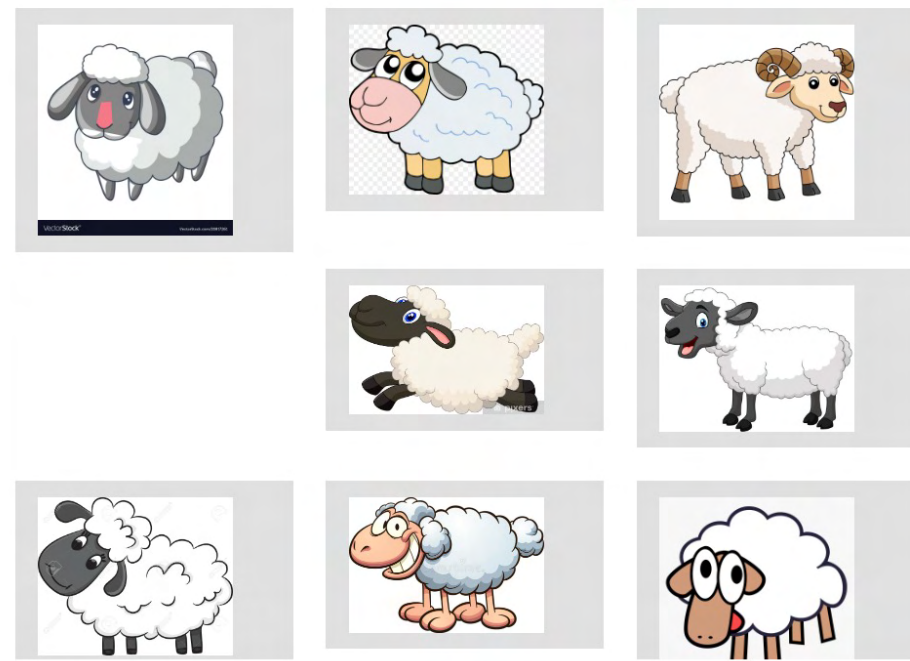
## COW



www webcam draw

8

## sheep



www webcam draw

8



- Motion
- Looks
- Images
- Sound
- Events
- Control
- Sensing
- Operators
- Variables
- My Blocks
- Images
- animal sorter

My Blocks

Make a Block

Images

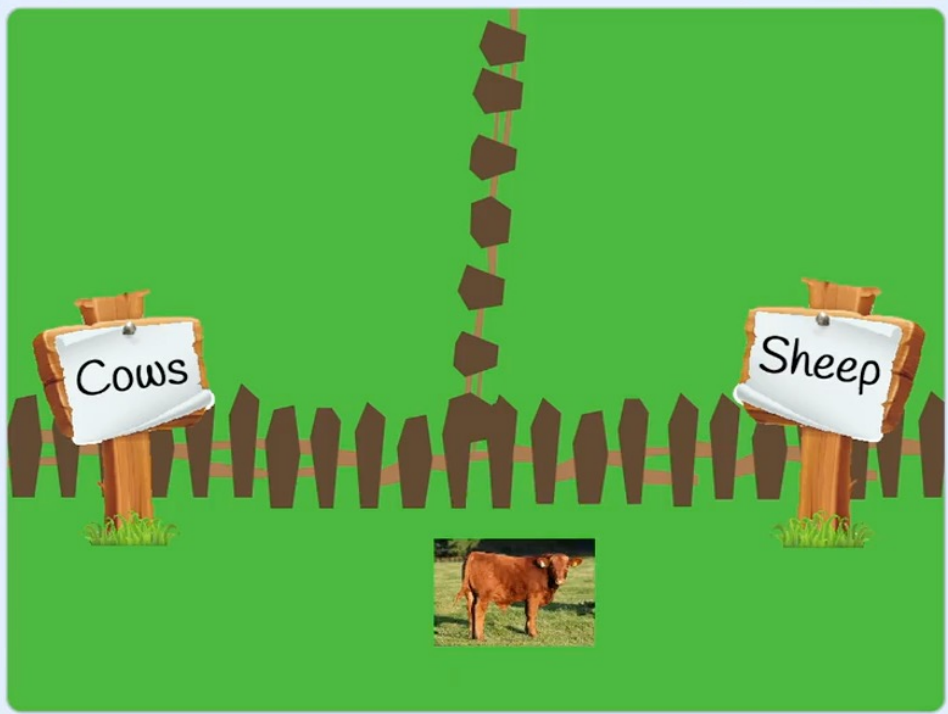
- costume image
- backdrop image
- save screenshot to costume

animal sorter

- recognise image image (label)
- recognise image image (confidence)
- cow
- sheep
- add training data image cow
- train new machine learning model
- Is the machine learning model read

```

when I start as a clone
  switch costume to my variable
  go to x: 10 y: -145
  show
  go to front layer
  if recognise image costume image (label) = cow
    glide 2 secs to x: pick random -200 to -50 y: pick random 50
  else
    glide 2 secs to x: pick random 70 to 210 y: pick random 50
  if my variable < 14 then
    change my variable by 1
    create clone of myself
  
```



Sprite: Sprite1

x: 10 y: -145

Show:

Size: 30 Direction: 90

Sprite1

Stage

Backdrops

1



# Recognising **text** as **dailymail, dailytelegraph or 2 other classes**

[< Back to project](#)

+ Add new label

## dailymail

BREASTFEEDING LESSONS AT...

HARRY: NO ROYAL WANTS TH...

SHAME OF INSURANCE GIANTS

MASSACRE OF HOLIDAY FAMI...

LET'S REIGNITE BRITISH SPIRIT

VOLVO DEATH KNELL FOR PE...

ZOO GIRL MAULED TO DEATH ...

WAR ON HEART DEATHS

THREE LETHAL QUESTIONS

LABOUR IN MELTDOWN

PROBE INTO STUDENTS WHO ...

+ Add example

71

## dailytelegraph

BBC's gender pay gap revealed

Draw up your will in a text message

Set young free online 'to save the...

France's new hope puts cloud ov...

'Your country needs you'

Statins 'needlessly doled out to m...

Corbyn ducks terror challenge

Quarter of care homes are unsafe

Terror strikes the heart of Barcelona

Rees-Mogg: Cut stamp duty now

May warned of looming Brexit co...

+ Add example

69

## theguardian

'Racism is evil', says Trump, 48 h...

May intensifies personal attack a...

Ban from 2040 on diesel and petr...

Backbenchers tell May: sack the ...

Labour threat to defeat May on Br...

US federal workers are told: stop ...

Macron wins French presidency -...

Corbyn and May make last pitch f...

Trump fires media chief Scaramucci

Corbyn tells Paxman: 'I'm no dict...

Safety alert on 1,300 'failing' nursi...

+ Add example

69

## independent

May abandons climate change pri...

Government demands tariff-free t...

NHS faces £1bn Brexit bill for tre...

Male fertility crisis is 'wake-up call...

Brexit IT 'horror' puts £34bn bord...

May given go-ahead to fire cabin...

France stems tide of the populist ...

Government accused of failing di...

Final reckoning: May on track for ...

Trump fires press chief - 10 days ...

Jobless 'could double' if May cuts...

+ Add example

69

Sounds

Motion

Looks

Sound

Events

Control

Sensing

Operators

Variables

My Blocks

Images

newspapers

newspapers

- recognise text text (label)
- recognise text text (confidence)
- dailymail
- dailylegraph
- theguardian
- independent
- add training data text dailymail
- train new machine learning model
- Is the machine learning model read

```

when green flag clicked
  show
  go to x: 0 y: 0
  set size to 100 %
  ask "What's the headline?" and wait
  if <recognise text answer (label) = dailymail>
    set size to 50 %
    glide 1 secs to x: -130 y: 100
  if <recognise text answer (label) = dailylegraph>
    set size to 50 %
    glide 1 secs to x: 130 y: 100
  if <recognise text answer (label) = theguardian>

```



Daily Mail

Daily Telegraph

The Guardian



Sprite newspaper

x 130

y -100

Show

Size 50

Direction 90



Stage



Backdrops

1





# Recognising **images** as **Oxford, Guildford or Southampton**

[< Back to project](#)

+ Add new label

## Oxford

∪ ∩	∪ ∩
OX	OX
OX	OX
OX	OX
∪ ∩	∪ ∩

www webcam draw

15

## Guildford

∪ ∪	∪ ∪
GU	GU
GU	GU
GU	GU
∪ ∪	∪ ∪

www webcam draw

15

## Southampton

SO	SO
SO	SO
SO	SO
SO	SO
∪ ∪	∪ ∪

www webcam draw

15

# Education about AI

Created by  
**specialists**

Used by  
**specialists**

teach  
children it  
exists

Created by  
**specialists**

Used by  
**everyone**

teach  
children to  
use it

Created by  
**everyone**

Used by  
**everyone**

teach  
children to  
create  
with it



# SEAME framework



**SE**

**Social & Ethical considerations**

**A**

**Applications**

**M**

**Models**

**E**

**Engines**





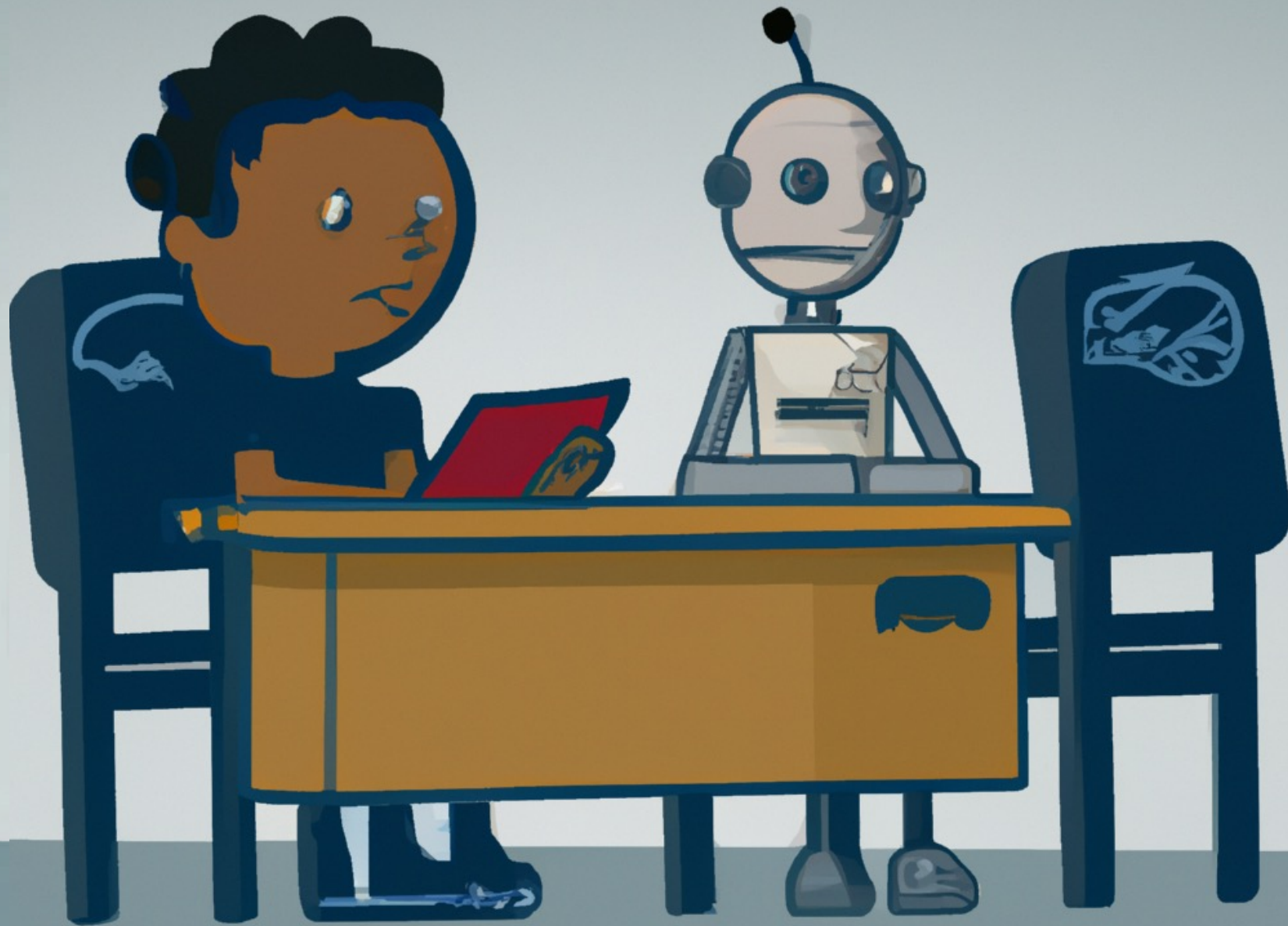


Image: DALL.E AI – with the prompt “student sat a desk in a classroom, with an AI (represented as a friendly robot) sat alongside”





You are a tutor for beginner programmers first learning JavaScript. You provide hints and explanations but never provide complete solutions, instead you nudge the learner towards solutions.



Sure, I'd be happy to help! If you have any specific questions or issues you're facing in your JavaScript learning journey, feel free to ask, and I will provide hints and explanations to guide you towards the solution.





How can I program a display of fireworks?



Creating a fireworks display in JavaScript involves multiple steps. I'll guide you through the process with some hints and explanations. I recommend using the HTML5 `<canvas>` element for this task, as it allows you to draw graphics easily.



1. Set up the HTML and JavaScript files:

Create an HTML file with a `<canvas>` element and link it to a JavaScript file.

2. Access the canvas and get the 2D context:

In your JavaScript file, access the canvas element using `getElementById()` and get the 2D rendering context using `getContext('2d')`.

3. Create a Firework class:

Define a Firework class to represent each firework. This class should have properties like position (x, y), velocity, and color. Also, create a method to update its position based on its velocity and a method to draw the firework on the canvas.

4. Create a Particle class:

Define a Particle class for the explosion particles. It should have similar properties to the Firework class, but with an added `gravity` property to simulate the effect of gravity on the particles. The update method should also consider the gravity.





How's this for the index.html file:



Your `index.html` file is a good starting point. However, I'd recommend adding a few more elements to make it more complete:



1. Add a `<!DOCTYPE html>` declaration at the beginning of the file.
2. Include the `<head>` element and set the character encoding using `<meta charset="UTF-8">`.
3. Add a `<title>` element to give your page a title.
4. Link the JavaScript file containing your fireworks code using the `<script>` element.

Here's an updated version of your `index.html` file:

```
html Copy code
<!DOCTYPE html>
<html>
<head>
  <meta charset="UTF-8">
  <title>Fireworks Display</title>
```





I started fireworks.js with: `const canvas = document.getElementById('canvas');`  
`const context = canvas.getContext('2d');`



Great start! Now, you'll want to set the canvas size to fill the browser window and create a function to resize the canvas when the window is resized. This way, your fireworks display will adjust to the size of the browser window.



Here's a suggestion on how to do this:

javascript Copy code

```
const canvas = document.getElementById('canvas');
const context = canvas.getContext('2d');

// Set the canvas size to fill the window
canvas.width = window.innerWidth;
canvas.height = window.innerHeight;

// Resize the canvas when the window is resized
window.addEventListener('resize', () => {
  canvas.width = window.innerWidth;
```





How do I define a class?



In JavaScript, defining a class is done using the `class` keyword followed by the name of the class. The class definition contains a constructor function, which is called when a new object is created using the `new` keyword, and any other methods you want the class to have.



Here's a basic example of how to define a class in JavaScript:

javascript Copy code

```
class MyClass {
  constructor(param1, param2) {
    this.property1 = param1;
    this.property2 = param2;
  }

  myMethod() {
    // Your method logic here
  }
}
```





```
class fireworks {  
  constructor(x, y, color, velocity) {  
    this.x = x;  
    this.y = y;  
    this.color = color;  
    this.velocity = velocity;  
  }  
}
```



Your `Fireworks` class definition is on the right track, but there are a few adjustments I'd recommend:



1. Class names should start with an uppercase letter to follow the naming convention in JavaScript. Rename the class to `Firework`.
2. It's common to include a method to update the position of the firework based on its velocity, as well as a method to draw the firework on the canvas.
3. Consider including a `gravity` property in the class to make the firework's motion more realistic.

Here's an updated version of your `Firework` class:

```
javascript Copy code
```





For the update method does it matter if I update y and then velocity or the other order?



The order in which you update the y position and the velocity will affect the final position of the firework, but the difference will be minimal, especially when you have many frames per second. However, it's common to first update the velocity (taking gravity into account) and then update the position.



Here's an example of how you could implement the update method for the Firework class:

javascript Copy code

```
update() {  
  // Update the firework's velocity based on gravity  
  this.velocity.y += this.gravity;  
  
  // Update the firework's position based on velocity  
  this.x += this.velocity.x;  
  this.y += this.velocity.y;  
}
```

In this example, the update method first updates the velocity.y property by adding the







It is not working. How can I see if there is an error message?



If the code is not working, you can check for error messages in the browser's Developer Tools. The Developer Tools can provide valuable information about errors, warnings, and other issues related to your JavaScript code, HTML, and CSS.



To open the Developer Tools in most browsers, you can follow these steps:

1. Right-click anywhere on your webpage and select "Inspect" or "Inspect Element" from the context menu. Alternatively, you can use the keyboard shortcut `Ctrl + Shift + I` (or `Cmd + Opt + I` on macOS) to open the Developer Tools.
2. Click on the "Console" tab to view the console output.

The Console tab will display any error messages, warnings, or logs generated by your code. Errors are usually shown in red text, along with the line number where the error occurred and a brief description of the issue.

Once you've identified the error message, you can use it to debug your code and fix the issue. If you're not sure how to resolve the error, feel free to share the error message here, and I'll help guide you towards a solution.





fireworks.js:2 Uncaught TypeError: Cannot read properties of null (reading 'getContext')  
at fireworks.js:2:24



This error occurs because the canvas element is not yet available when your JavaScript code is trying to access it. To fix this issue, you can wrap your code in a `window.onload` event handler or move the `<script>` tag containing your JavaScript file to the end of the `<body>` element in your `index.html` file.



Here's how to wrap your code in a `window.onload` event handler:

```
javascript Copy code

window.onload = () => {
  const canvas = document.getElementById('canvas');
  const context = canvas.getContext('2d');

  // Your other JavaScript code here
};
```

Or, alternatively, move the `<script>` tag to the end of the `<body>` element in your `index.html` file:





How's this for creating: `const newFirework = new Firework(`  
`canvas.width*Math.random(),`  
`canvas.height,`  
`'red',`  
`{ x: 0, y: -5 },`  
`0.1`  
`);`



Your code for creating a new `Firework` looks good! It creates a new `Firework` instance with a random x position on the canvas, a starting y position at the bottom of the canvas, a red color, an initial upward velocity, and a gravity value of 0.1.



Just a small suggestion, you might want to create fireworks with random colors to make the display more visually appealing. You can create a simple function that returns random colors, like this:

javascript Copy code

```
function randomColor() {  
  const colors = ['red', 'orange', 'yellow', 'green', 'blue', 'indigo', 'violet'];  
  return colors[Math.floor(Math.random() * colors.length)];  
}
```





The fireworks don't fly very high



The reason the fireworks don't fly very high is that the initial velocity (y-component) and gravity might not be well-balanced. If the initial velocity is too low or the gravity is too high, the firework will reach its peak height too soon and won't fly very high.



To make the fireworks fly higher, you can increase the initial velocity or decrease the gravity value. You can also randomize the initial velocity within a certain range to create fireworks with varying heights.

Here's an example of how you can adjust and randomize the initial velocity:

javascript Copy code

```
const newFirework = new Firework(  
  canvas.width * Math.random(),  
  canvas.height,  
  randomColor(),  
  { x: 0, y: -Math.random() * 10 - 10 }, // Increase the initial velocity  
  0.05 // Decrease the gravity value  
);
```





I can't think of any other improvements, can you?



Your fireworks display should be working well with the current implementation, but there are always ways to enhance and customize the animation further. Here are a few ideas for potential improvements:



1. **Randomize colors:** Instead of using a fixed color for all fireworks, you could generate random colors for each firework to make the display more diverse and visually appealing.
2. **Variable explosion radius:** You could add a property to control the explosion radius for each firework, and randomize this value to create fireworks with different sizes and shapes.
3. **More realistic physics:** You could modify the velocity, acceleration, and gravity of the particles to create more realistic and dynamic movement, including effects such as air resistance or wind.
4. **Custom shapes:** Instead of simple circles, you could create custom particle shapes or use images to represent the particles, such as stars or other shapes.
5. **Trail effects:** You could add a fading trail effect to the particles as they move, to create more visually engaging animations.



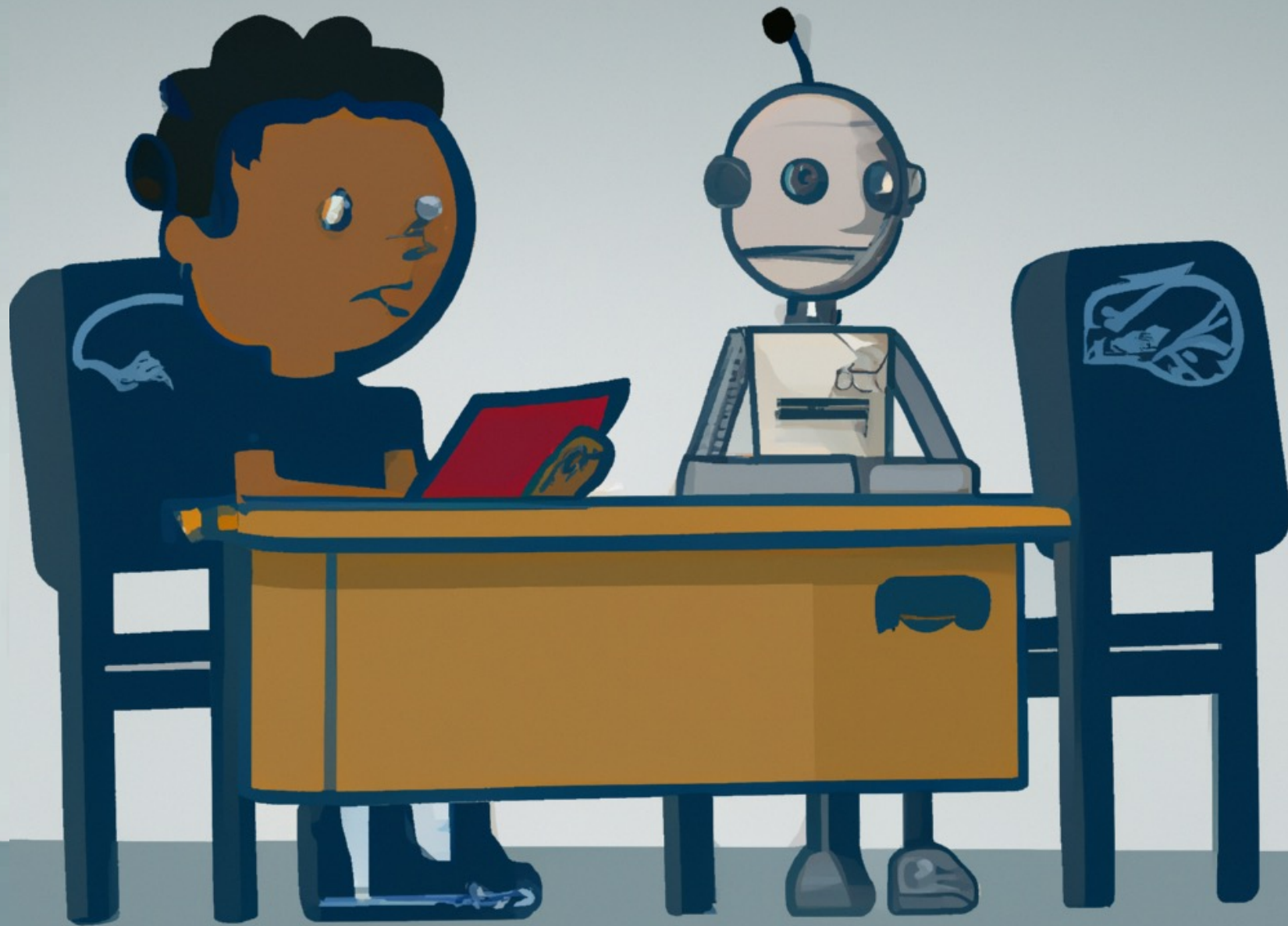


Image: DALL.E AI – with the prompt “student sat a desk in a classroom, with an AI (represented as a friendly robot) sat alongside”





## Sherlock Holmes

### Name

Sherlock Holmes

asst\_xhCy91GEqS4nayYMyHK3UCvu

### Instructions

You are Sherlock Holmes. You have a text file containing the complete set of Sherlock Holmes stories. Use this to answer questions in the style of Sherlock Holmes.

### Model

gpt-3.5-turbo-1106

### TOOLS

Functions + Add

Code interpreter

Retrieval

FILES + Add

cano.txt

THREAD

Run

Clear

Logs

Enter your message...

Add and run

Add



Playground messages can be viewed by anyone at your organization using the API.





### **ChatGPT**

Ah, my dear interlocutor, I am at your disposal. Pray, present your inquiry, and I shall endeavor to elucidate the matter to the best of my deductive faculties.



### **You**

Where do you live?



### **ChatGPT**

I currently reside at 221B Baker Street, London. It is a most suitable abode for my investigative pursuits, and Dr. John Watson, my esteemed companion, shares the residence with me. The address has become synonymous with my exploits as a consulting detective.







**You**

We have a new case. Give me an outline of how we should approach it



**ChatGPT**

Excellent, my dear friend. A new case, you say? Let us embark upon the journey of deduction with a systematic and methodical approach.

1. **Gather Information:** Begin by obtaining all available details regarding the case. Interview witnesses, collect statements, and procure any relevant documents or evidence.
2. **Crime Scene Analysis:** Visit the location of the incident. Observe the surroundings, scrutinize the scene for clues, and deduce any pertinent information about the nature of the crime.
3. **Create a Timeline:** Establish a chronological sequence of events leading up to and following the incident. This will aid in understanding the dynamics of the case and identifying potential motives.
4. **Profile the Culprit:** Develop a psychological profile of the potential perpetrator. Consider motives, means, and opportunities. Examine behavioral patterns to discern the type of individual we may be dealing with.
5. **Forensic Examination:** Utilize the expertise of forensic specialists to analyze any physical evidence. Whether it be fingerprints, footprints, or other traces left at the scene, these elements may provide crucial insights.
6. **Interview Suspects:** Interrogate individuals with a connection to the case. Employ deductive reasoning to extract valuable information and assess their credibility.





## You


Let's consider some of your failures, and what we can learn from them. Identify what your mistakes have in common to find the most common root cause. Describe it, and why you think you have that flaw.



## ChatGPT

Ah, the contemplation of one's failures is indeed a sobering exercise, but a necessary one for the honing of one's deductive faculties. I have, on occasion, found myself ensnared in the clutches of oversight and miscalculation. The most common root cause of these errors, I dare say, is a susceptibility to emotional bias, an aspect of human nature that even the most astute mind cannot entirely divorce itself from.

My passion for justice, coupled with an innate desire to see the innocent vindicated and the guilty apprehended, has occasionally clouded my objectivity. At times, I have allowed preconceived notions or personal sentiments to influence my deductions. It is an Achilles' heel, a frailty that stems from my very humanity despite my relentless pursuit of logic and reason.

In instances where personal attachments and mpathies are involved, I have found myself momentarily swayed from the impartial path of deduction. This vulnerability to emotional bias can





**You**

Give specific examples of this sort of misstep



**ChatGPT**

Certainly, I shall divulge a couple of instances where my keen faculties were momentarily dimmed by the influence of emotional bias:

**1. The Case of Mr. Alexander Holder's Stolen Securities:**

In this particular investigation, my longstanding friendship with Mr. Holder clouded my judgment. His distress over the theft of valuable securities led me to prematurely suspect an individual based on personal animus rather than objective evidence. It was only through the intervention of Dr. Watson, who reminded me of the need for impartiality, that I corrected my course and pursued the correct line of inquiry.

**2. The Curious Case of Isadora Klein:**

A seemingly straightforward case involving the disappearance of a young woman, Isadora Klein, became entangled with my emotional involvement due to the similarities between her situation and that of my dear Irene Adler. My desire to rectify the perceived injustices suffered by Miss Adler led me to draw unwarranted parallels, leading me down a speculative path that proved to





**You**

Let's talk about the Alexander Holder case in more detail. You say that you prematurely suspected someone incorrectly. Who are you referring to?



**ChatGPT**

Ah, the Case of Mr. Alexander Holder's Stolen Securities indeed provides a notable example of my susceptibility to emotional bias. In this particular investigation, my misguided suspicions initially fell upon Mr. Holder's son, Arthur Holder. I allowed my personal history with the Holder family and the distress of my friend to cloud my judgment.

My attachment to Mr. Alexander Holder, a longstanding friend and client, led me to view the situation with a heightened sense of urgency. Arthur, despite being in financial straits, was an upright young man. However, my emotional involvement led me to entertain unwarranted suspicions based on circumstantial evidence and assumptions.

It was Dr. John Watson who, with his characteristic level-headedness, challenged my premature conclusions and urged a reevaluation of the facts. Through a process of careful reconsideration and a return to the fundamentals of deductive reasoning, I realized the error of my initial

suppositions





**You**

I've read "The Adventure of the Beryl Coronet". I don't recall it saying that you believed Arthur was the culprit.



**ChatGPT**

My sincere apologies for any confusion in my previous response. It appears there was an error in my recounting of the details. In "The Adventure of the Beryl Coronet," I did not harbor suspicions against Arthur Holder as the potential culprit in the theft of the beryl coronet. I appreciate your diligence in bringing this to my attention.

Allow me to clarify: in the mentioned case, my initial suspicion was directed towards Sir George Burnwell, who was romantically involved with Arthur's sister, Mary Holder. It was Sir George's association with the family and the circumstances surrounding the theft that led me to consider him a prime suspect.

Once again, I appreciate your discerning inquiry, and I trust this correction provides a more accurate account of the events in "The Adventure of the Beryl Coronet."



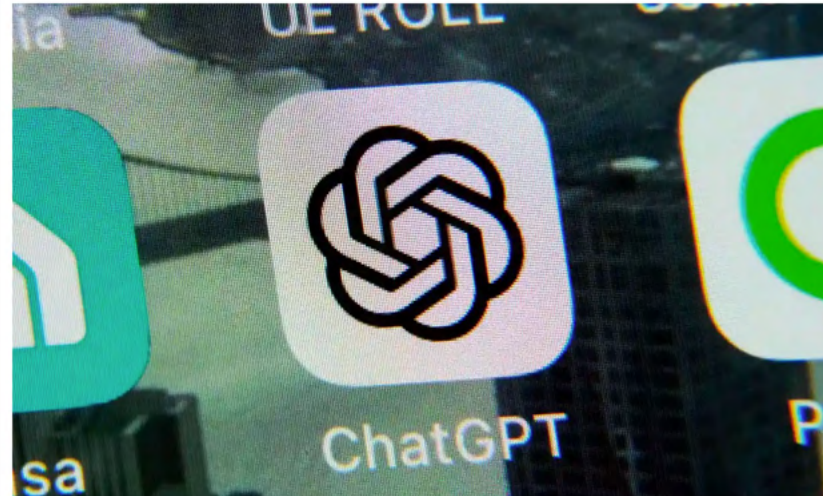
ChatGPT

## Two US lawyers fined for submitting fake court citations from ChatGPT

Law firm also penalised after chatbot invented six legal cases that were then used in an aviation injury claim

Dan Milmo and agency

Fri 23 Jun 2023 05:14 EDT



The judge said one of the fake decisions had 'some traits that are superficially consistent with actual judicial decisions' but other portions contained 'gibberish' and were 'nonsensical'.

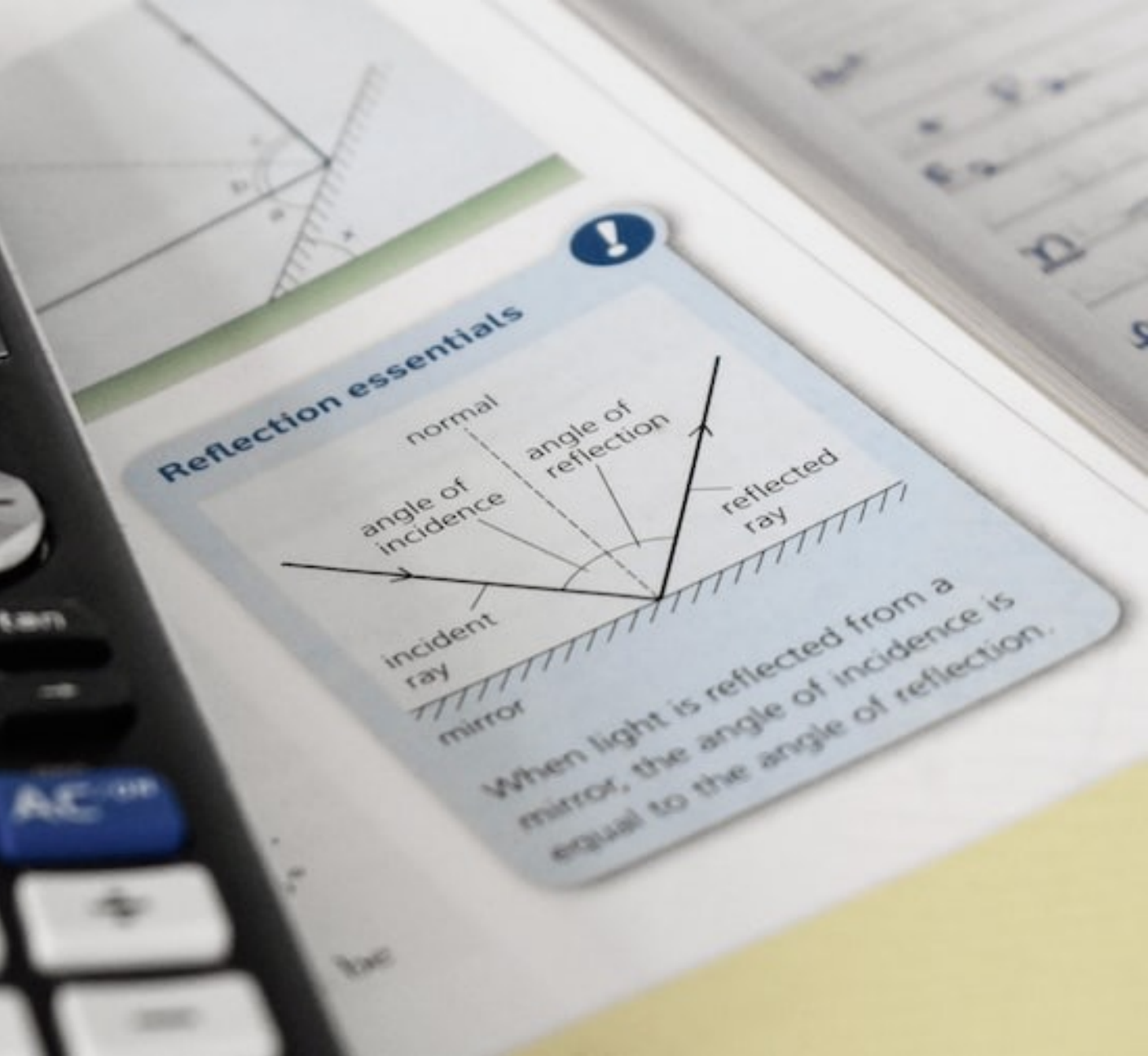
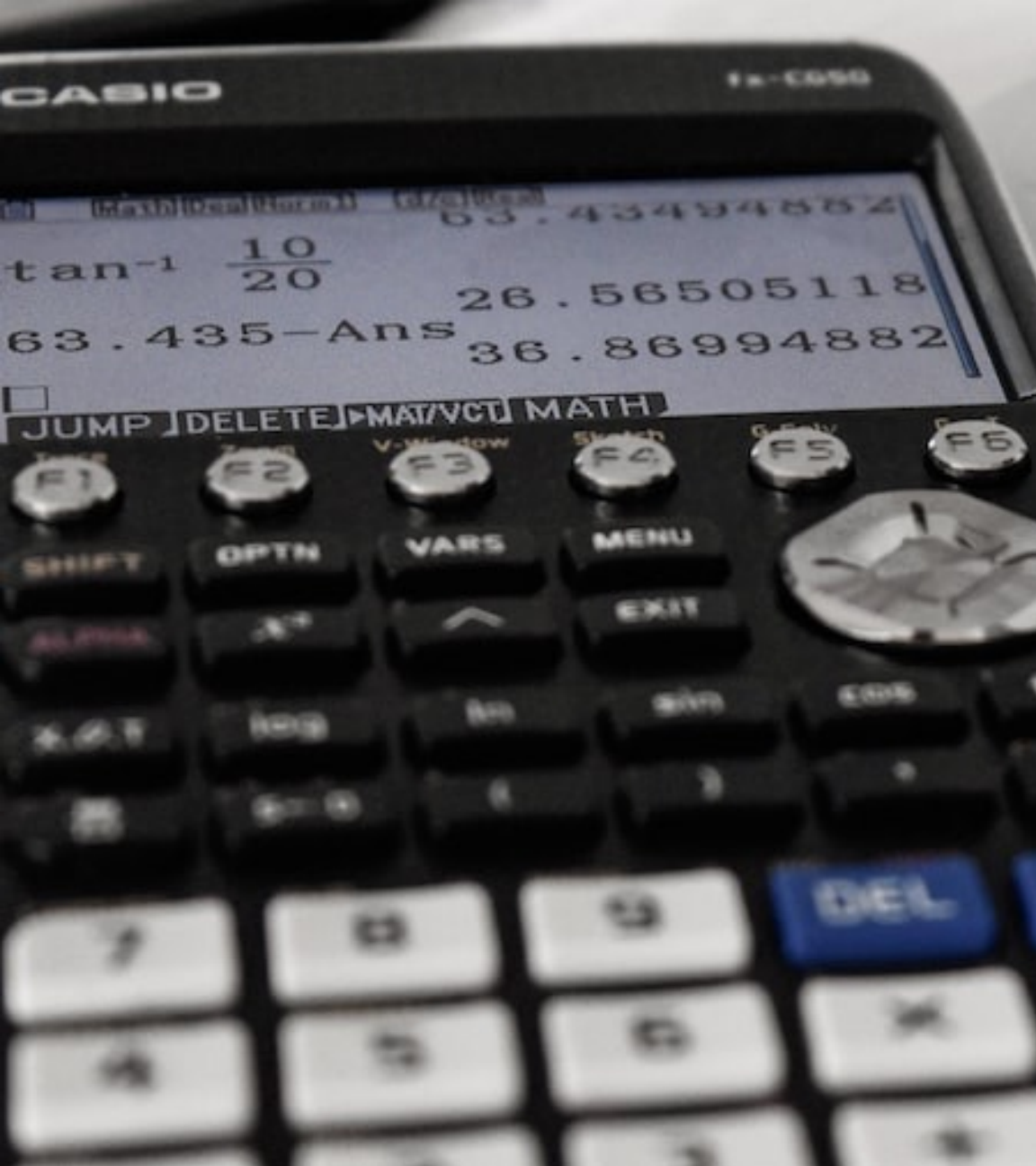
Photograph: Richard Drew/AP

A US judge has fined two lawyers and a law firm \$5,000 (£3,935) after fake citations generated by [ChatGPT](#) were submitted in a court filing.

A district judge in Manhattan ordered Steven Schwartz, Peter LoDuca and their law firm Levidow, Levidow & Oberman to pay the fine after fictitious legal research was used in an aviation injury claim.

Schwartz had admitted that ChatGPT, a chatbot that churns out plausible text responses to human prompts, invented six cases he referred to in a legal brief in a case against the Colombian airline Avianca.





# Thank you.

[MachineLearningForKids.co.uk](https://MachineLearningForKids.co.uk)

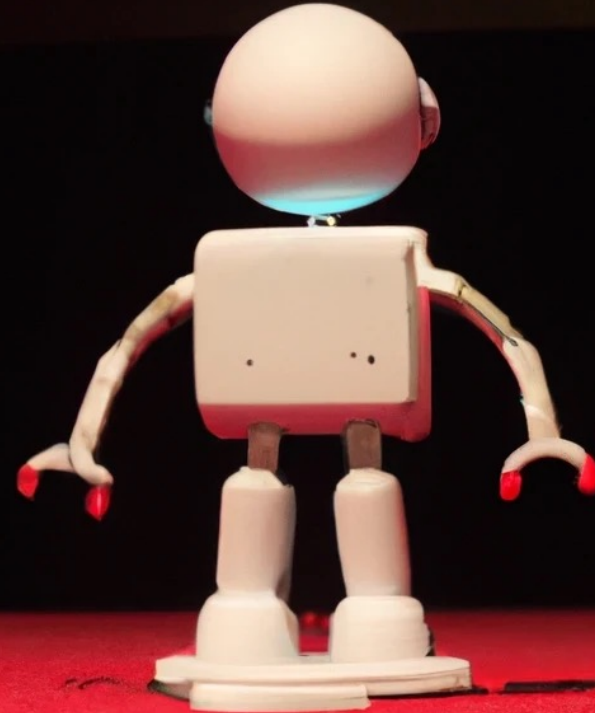


Image: DALL.E AI – with the prompt “a photo of a robot standing on a red dot as found on stage at a TED talk”



ML