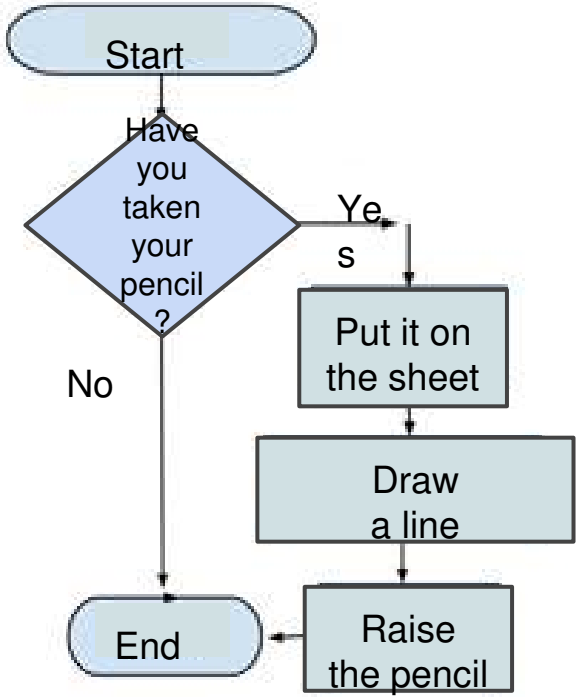
D·BIC

Code Their Dreams

Unit 1: Our First Game

Algorithm and Program (Code)




```
char incomingByte;          // 
int LED = 13;               // 
void setup() {
Serial.begin(9600); // инициа
pinMode(LED, OUTPUT); // выв
}
void loop() {
if (Serial.available() > 0)
incomingByte = Serial.read()
if(incomingByte == '0')
 digitalWrite(LED, LOW);
if(incomingByte == '1')
 digitalWrite(LED, HIGH);
```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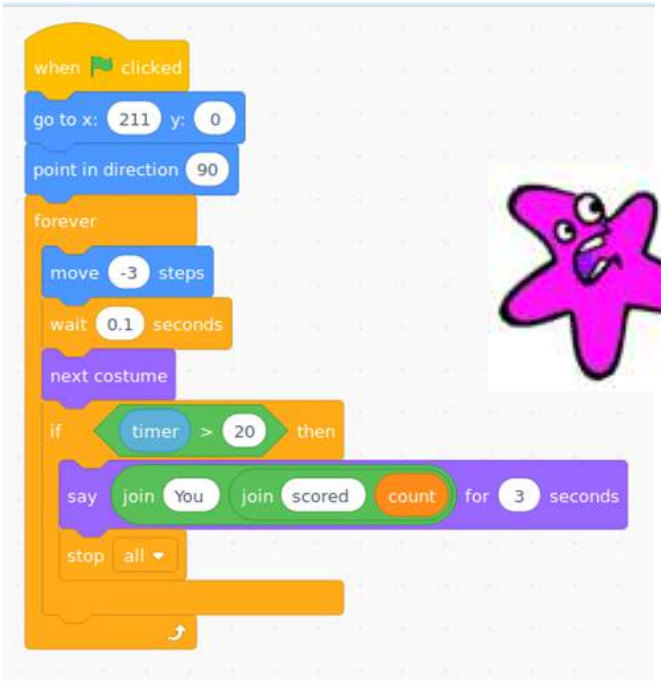
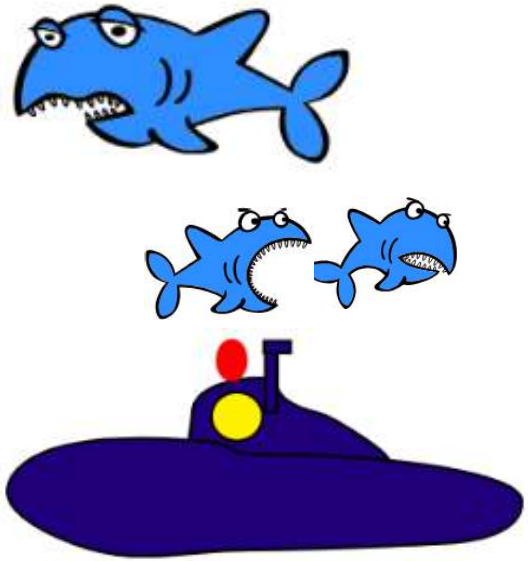
Sprite and Script (Code)





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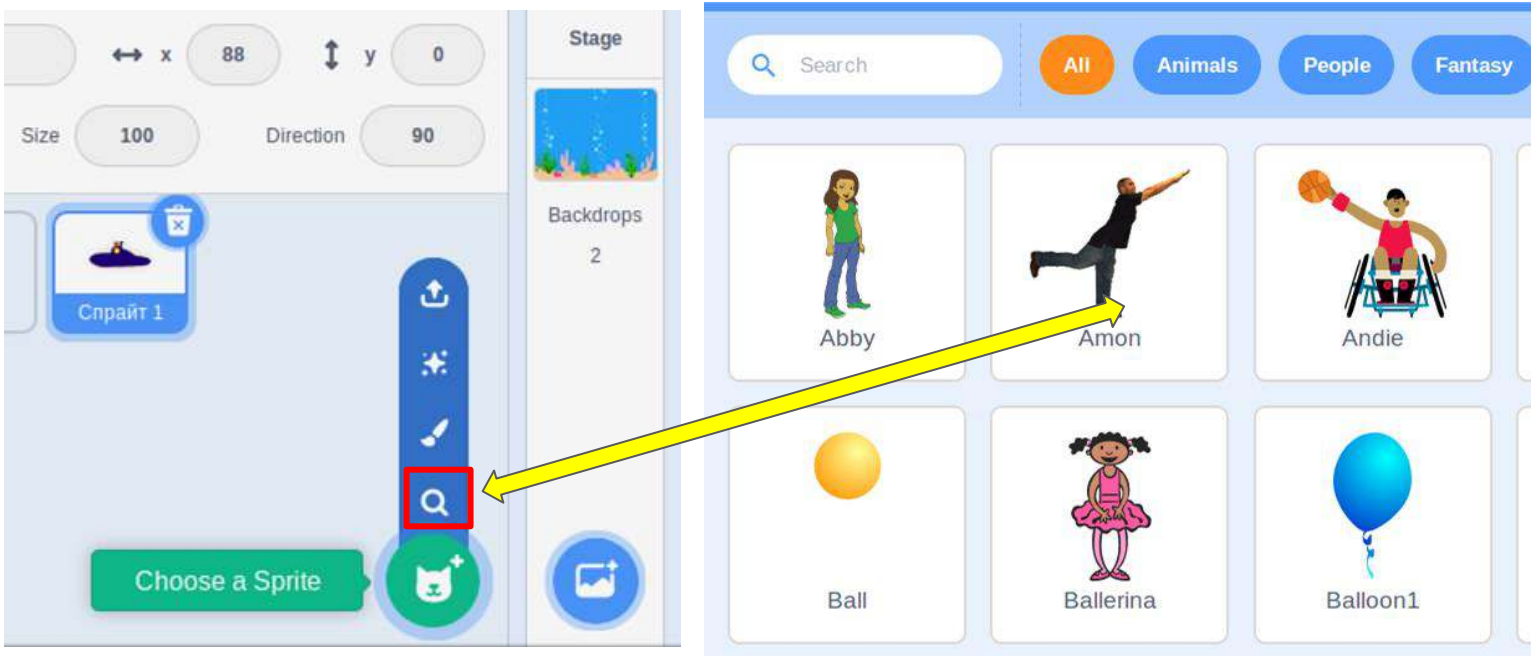
Choose Sprite



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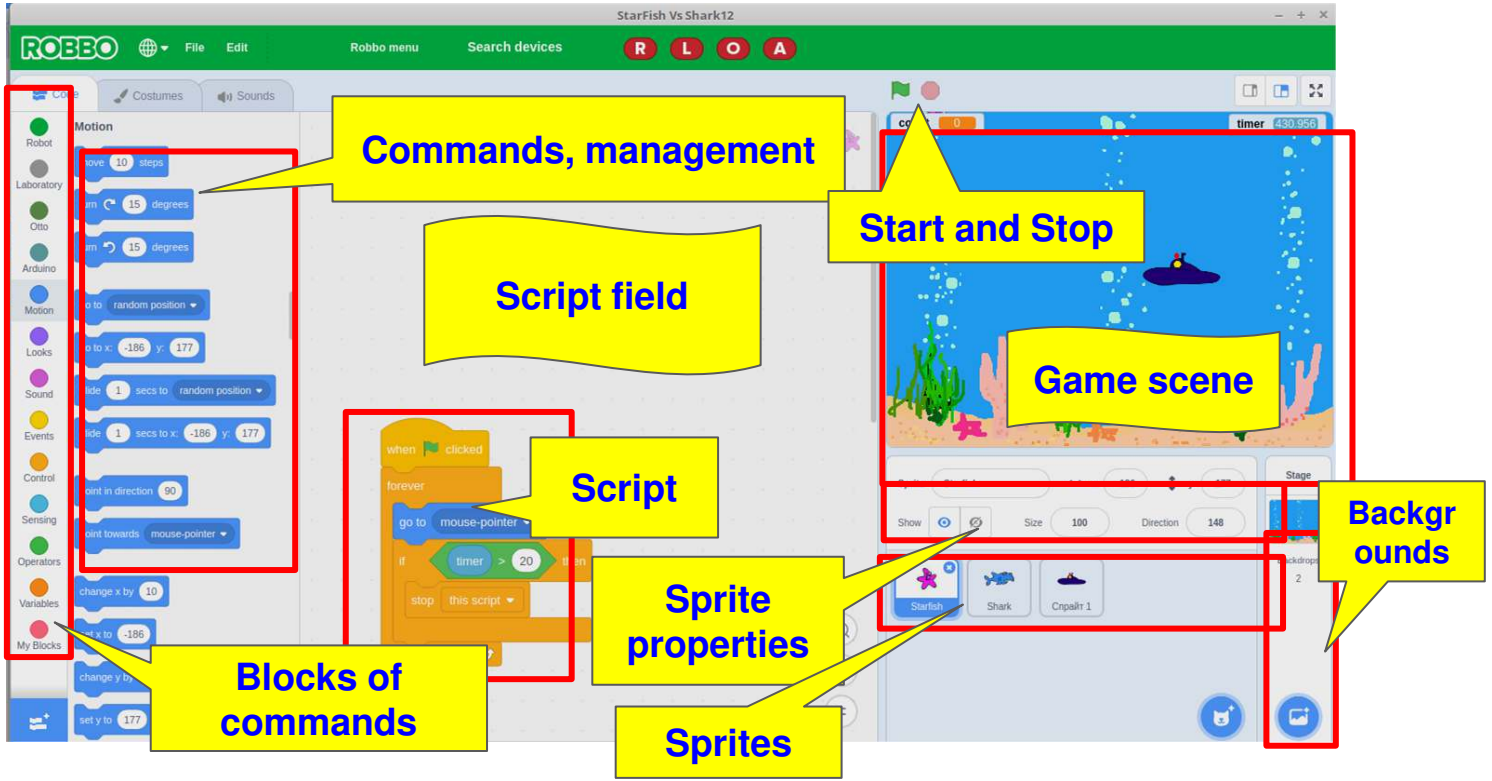
Scratch Interface (RobboScratch3)



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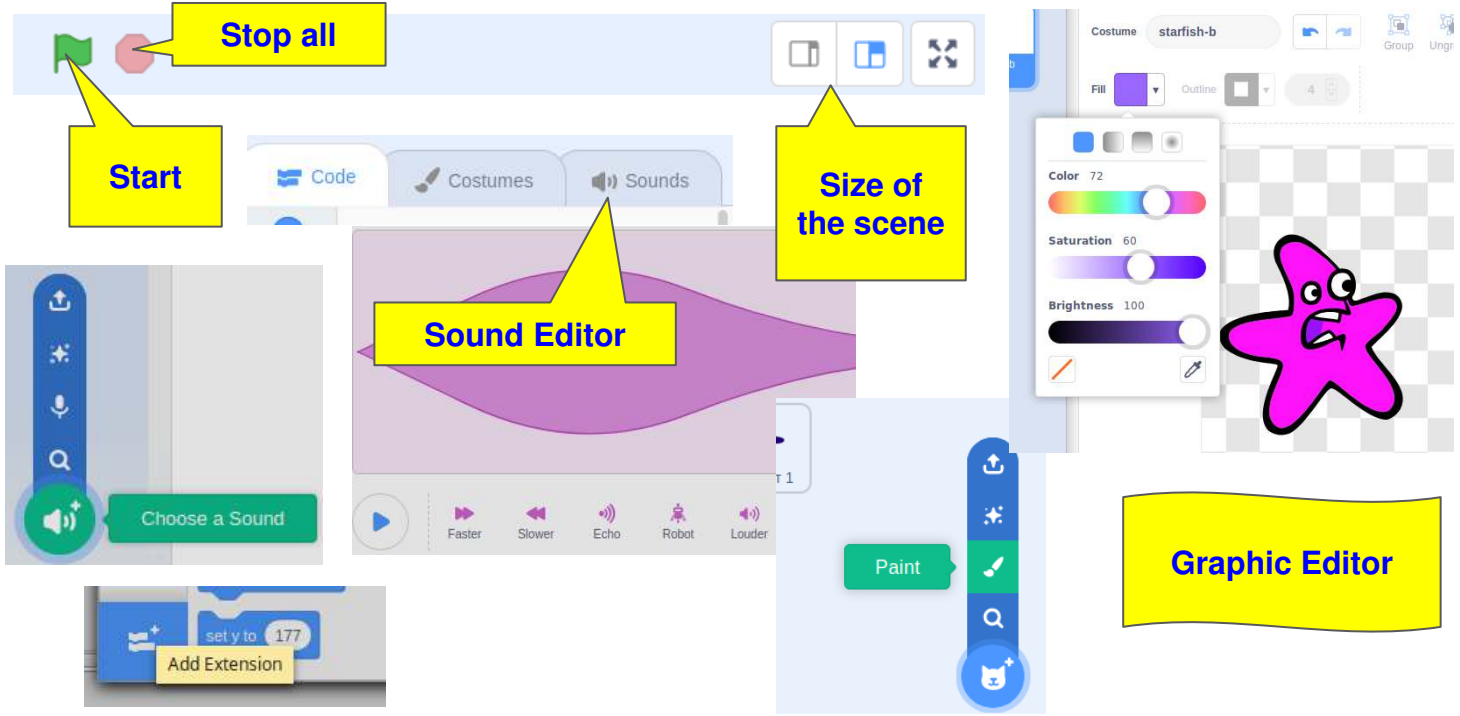
Scratch Interface (RobboScratch3)



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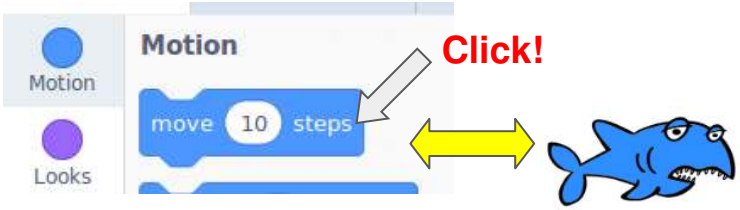
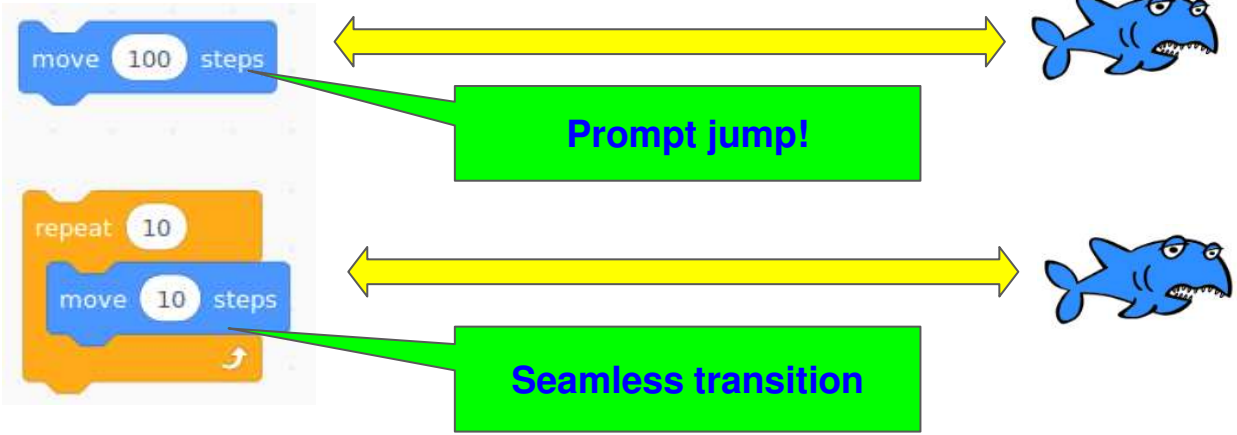
Commands. Motions. Cycle.





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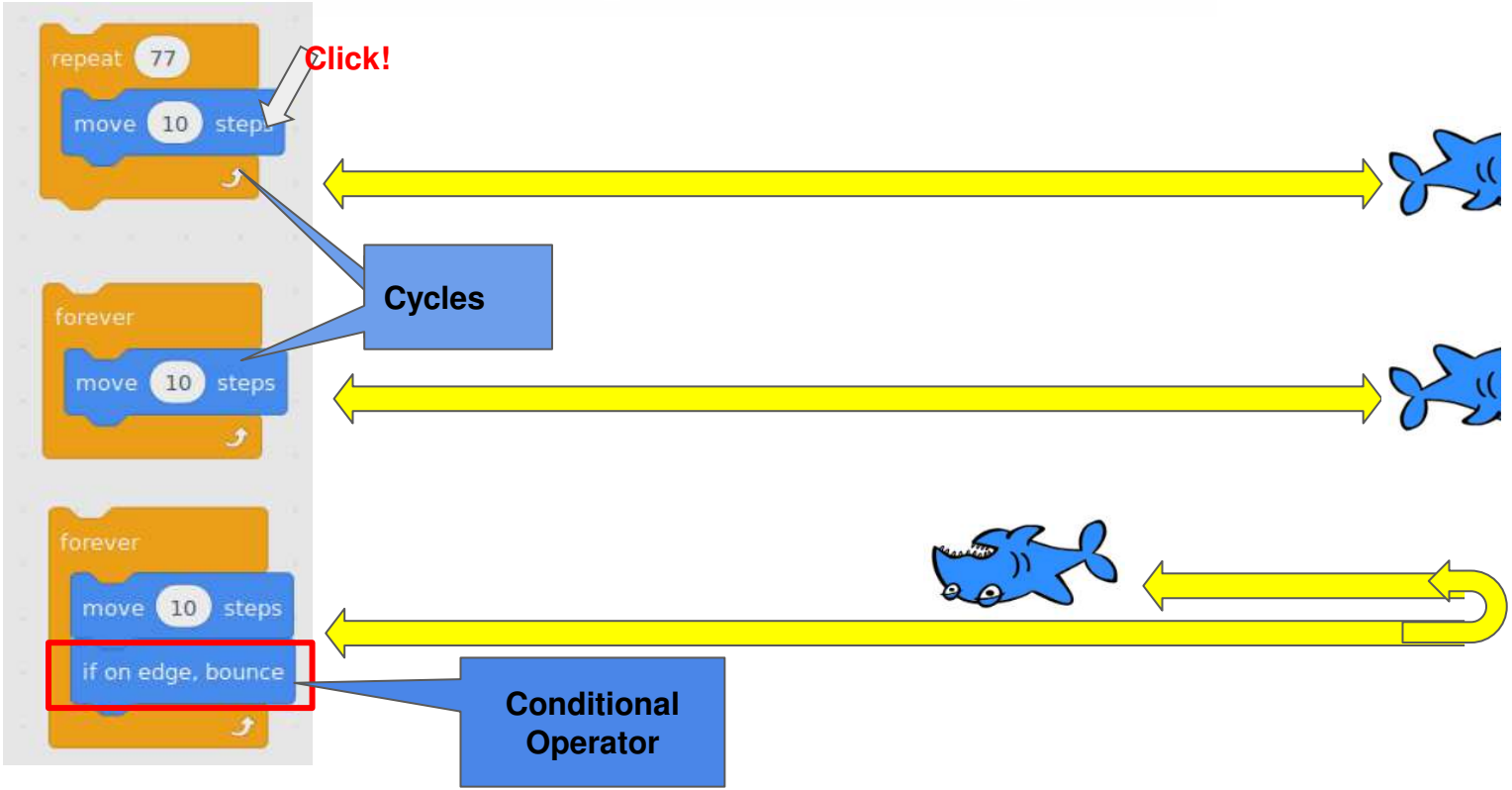
Commands. Cycles. Conditional Operator.



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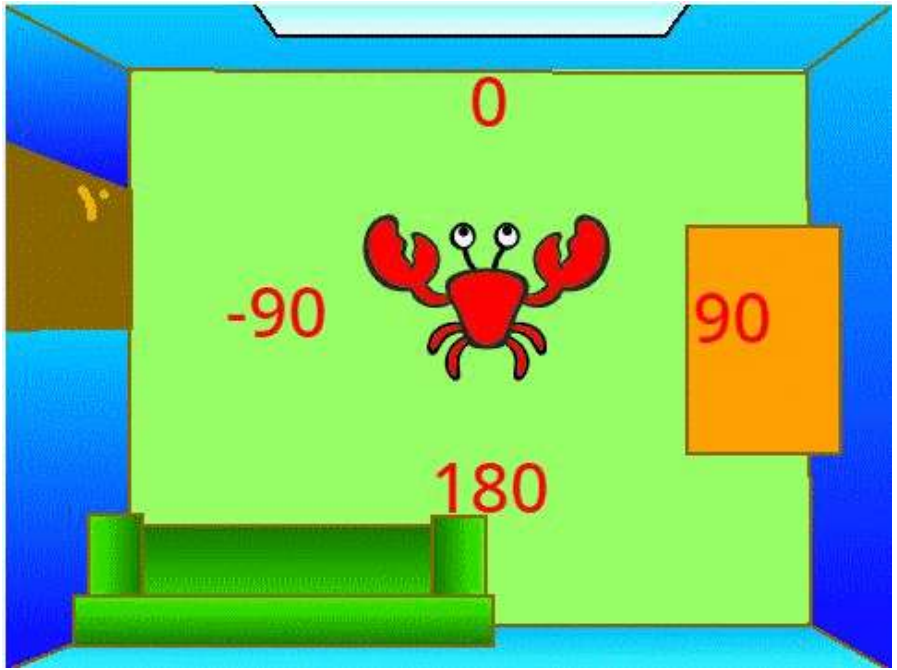
Commands. Direction in degrees



0-up

90-right

180-down

-90-left

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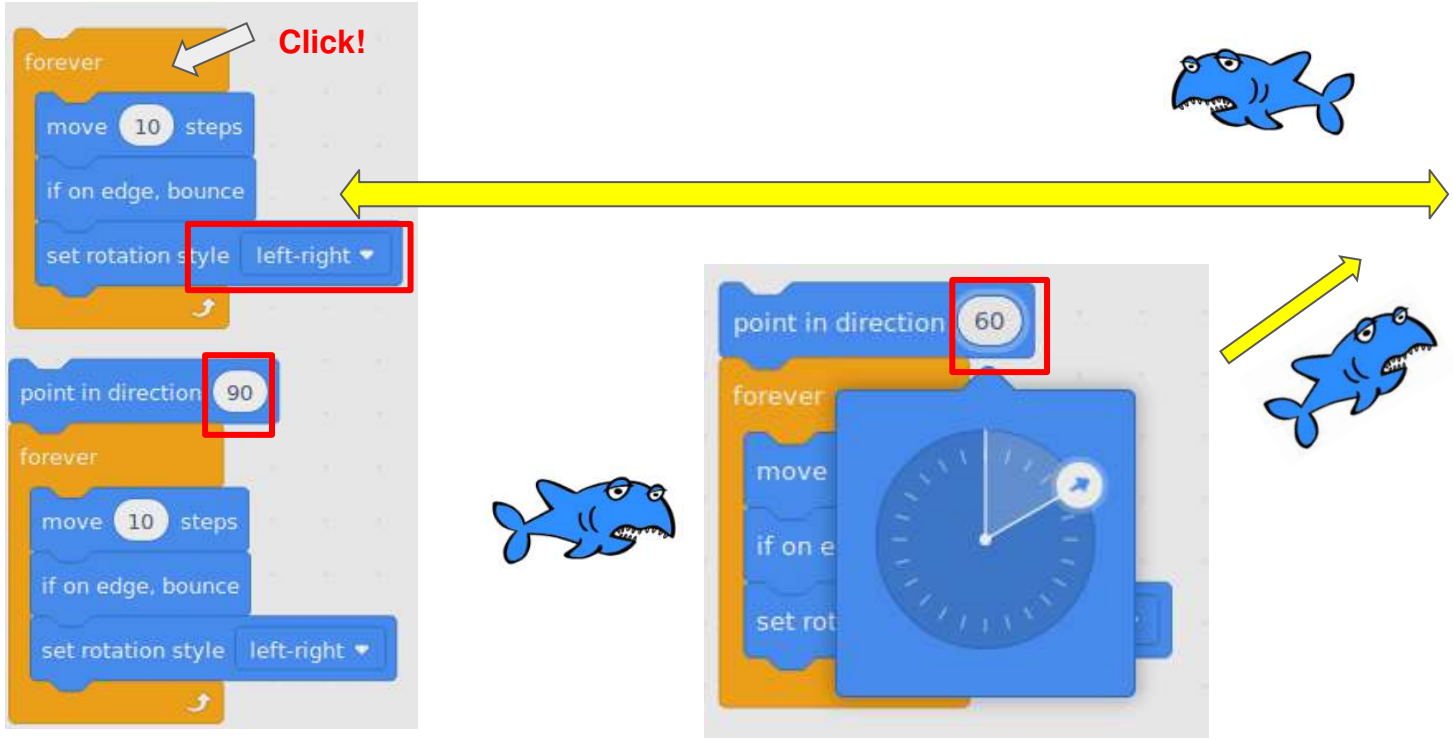
Commands. Direction. Scoping



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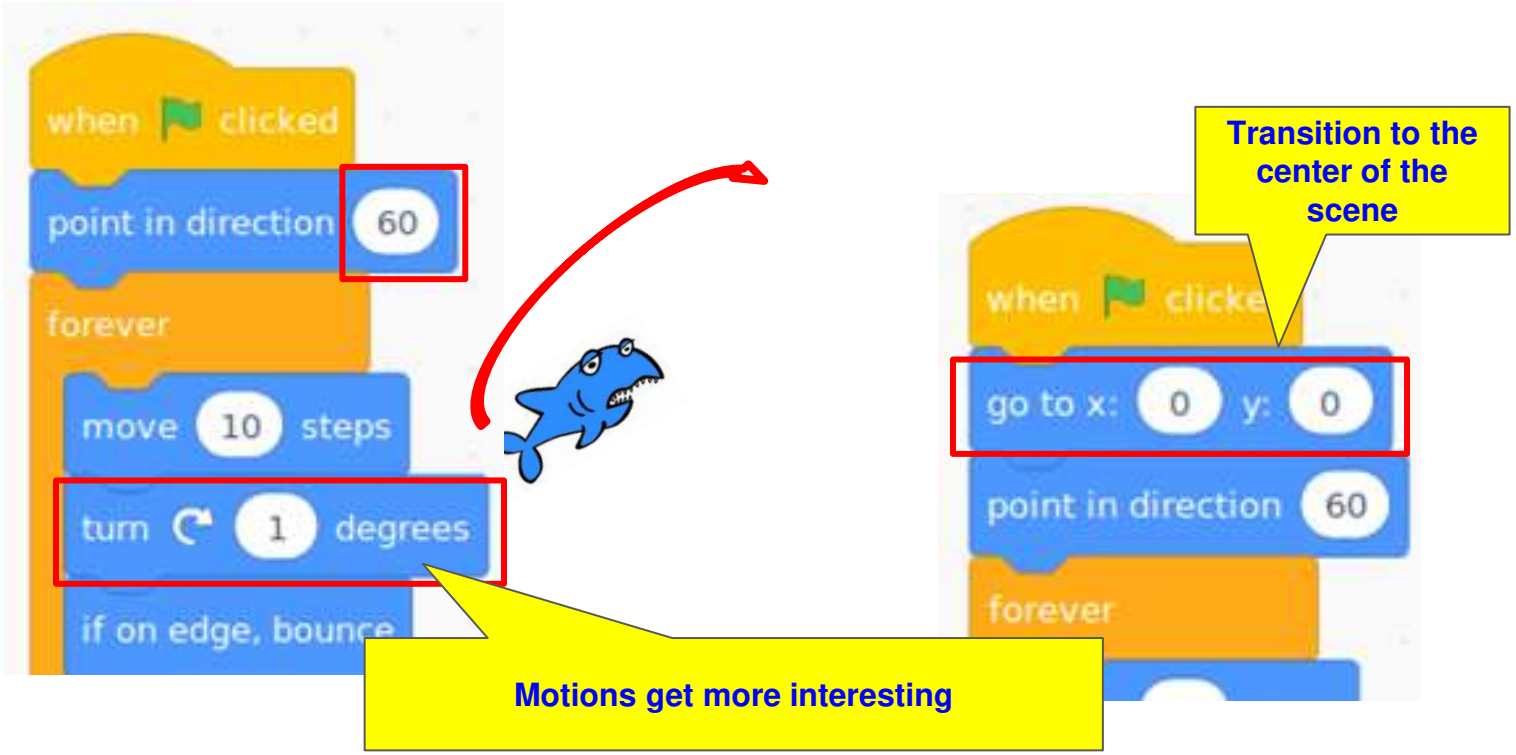
Commands. Rotation. Center, X and Y.



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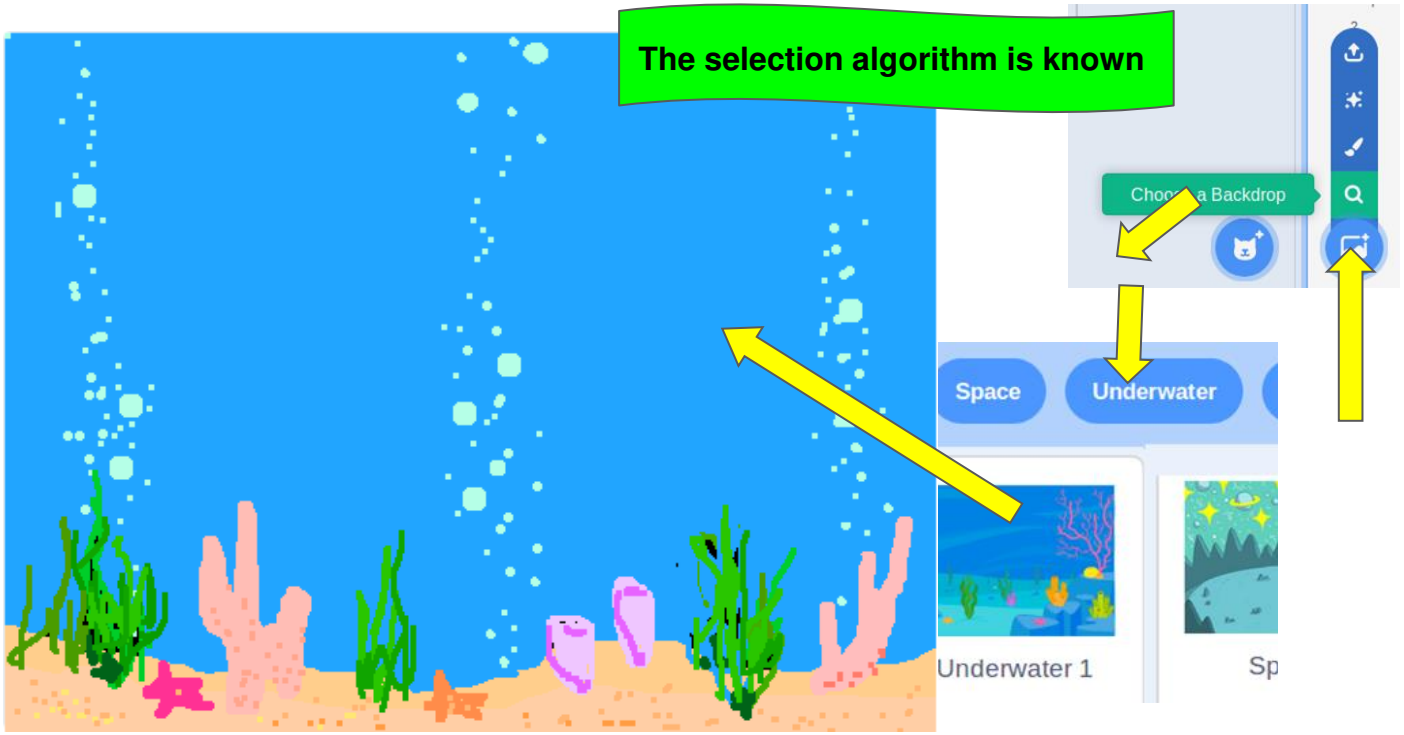
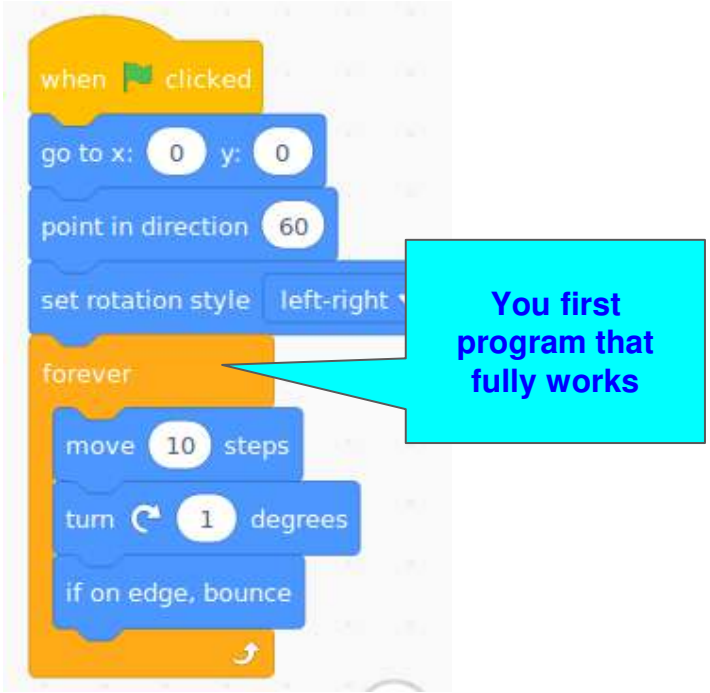
Background



The program works!



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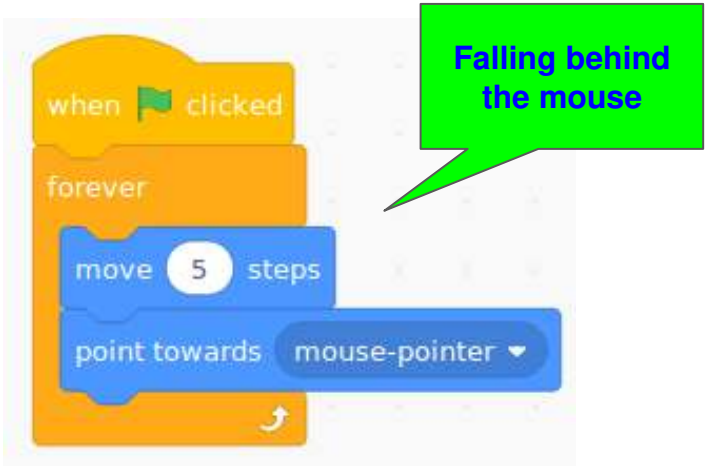
Commands. Any movement depends on others.



Falling behind the mouse

'Glued' to the mouse

Sprite in operation

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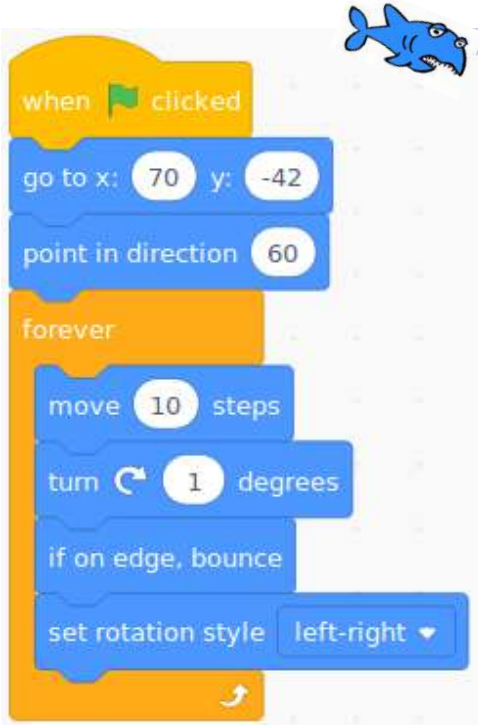
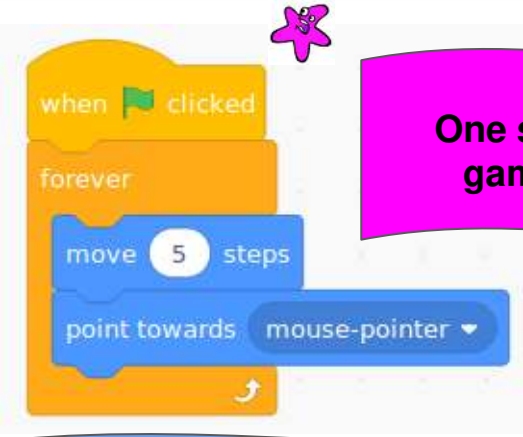
Interactive cartoon





One sprite. Managed by a gamer with the mouse

A lot of identical sprites. Managed by the computer

Sprites don't see each other!

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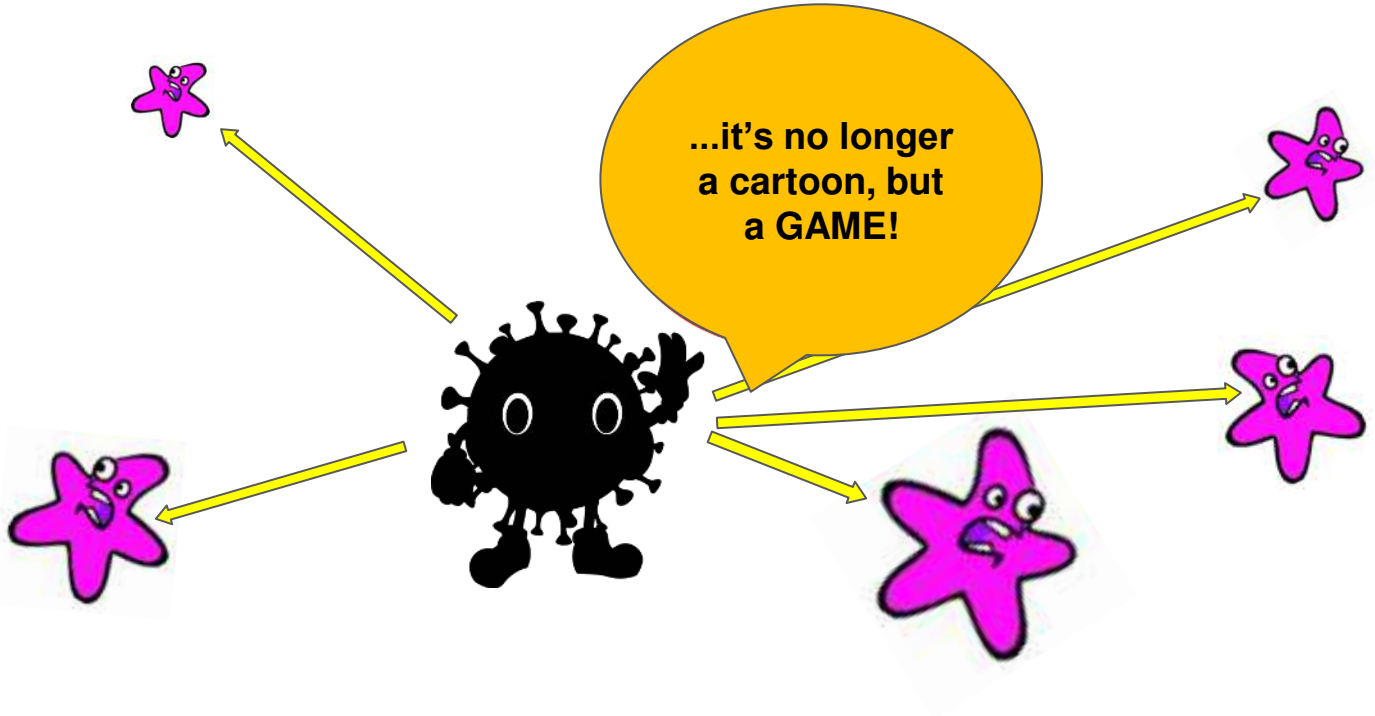
If you have an influence on the characters of the cartoon...



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In Scratch, the characters are sprites

In the game, sprites make their own decisions. They see other sprites and surroundings, they can hold, push, catch. But for all this, the sprite needs senses. Then the sprite becomes a virtual robot.

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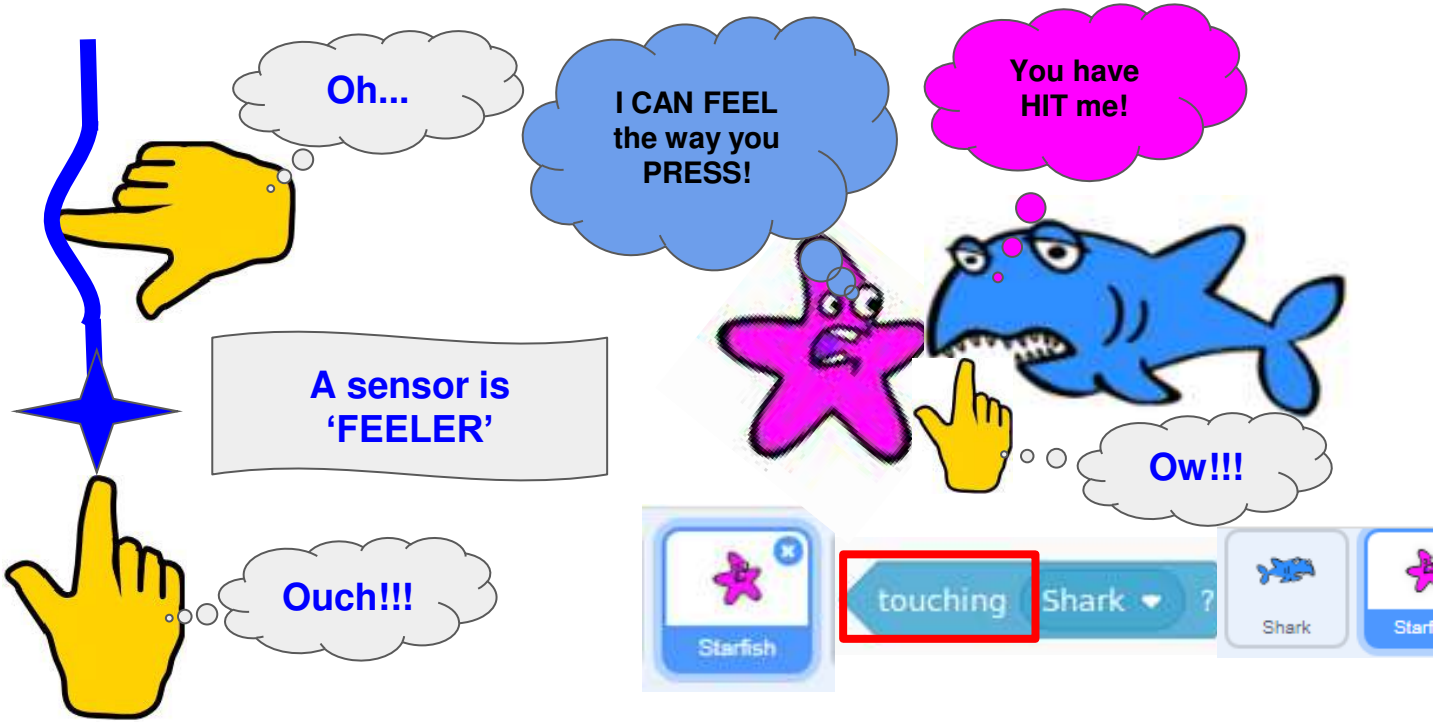
Sprite Sensors.



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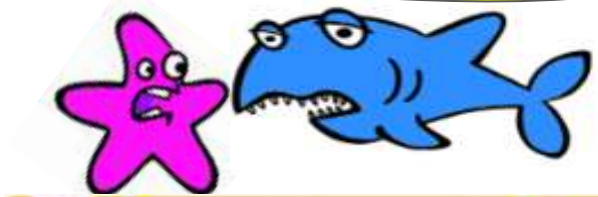
Who has sensors?

**Sprites touch.
Who touches whom? Does it matter? Yes!**



Be careful!

1. The Starfish will disappear

2. The Shark will disappear

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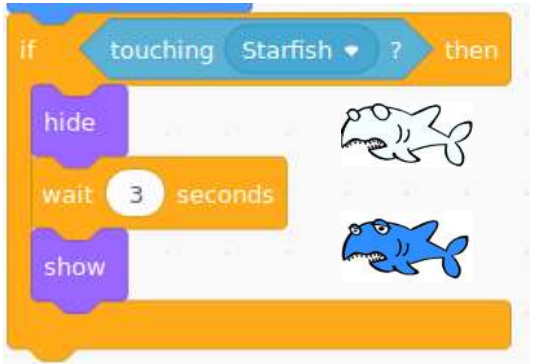
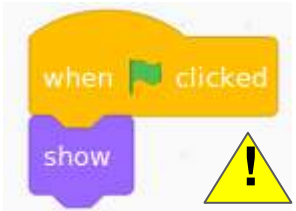
Create YOUR world!

LAW

of MY game:
if a Starfish and a Shark meet, the Shark will go away.

I said so





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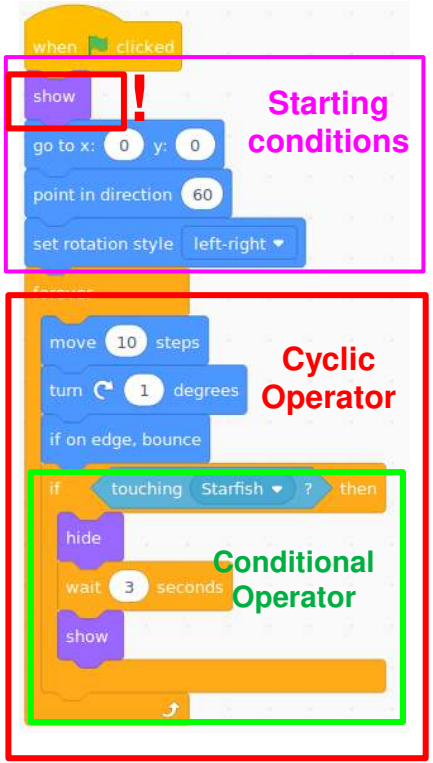
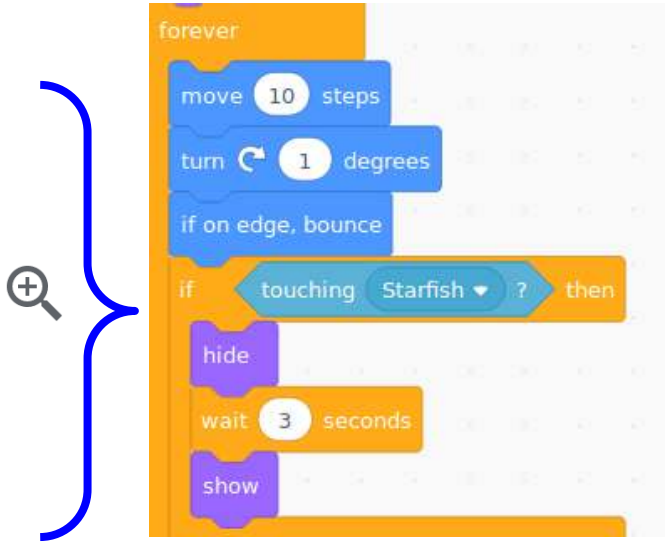
The Program for the Shark is Getting More Complicated.





One operator inserted into another like a nested doll

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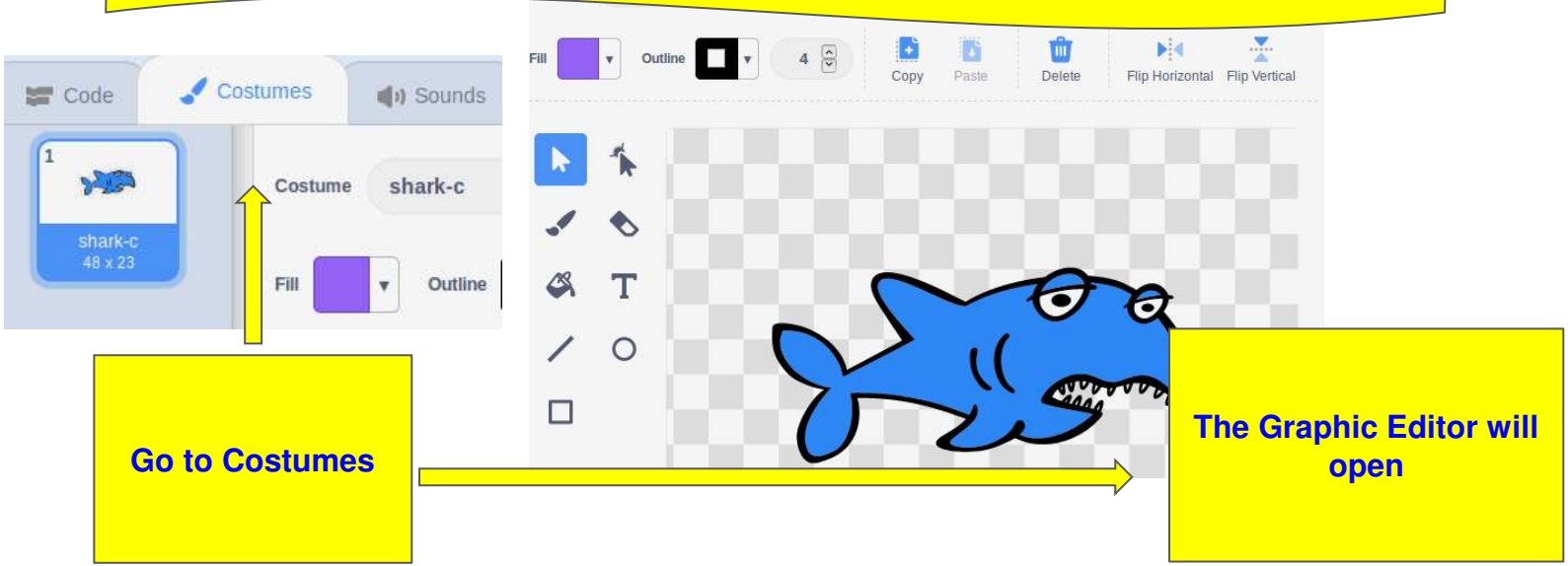
Graphic editor

We have a lot of sharks, but everyone is the same.
Let everyone have their own color.



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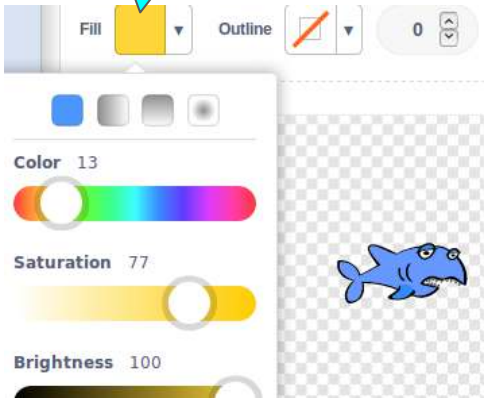
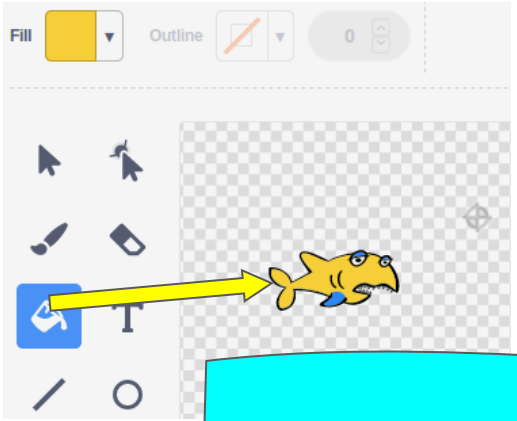
Introduction to the Graphic Editor

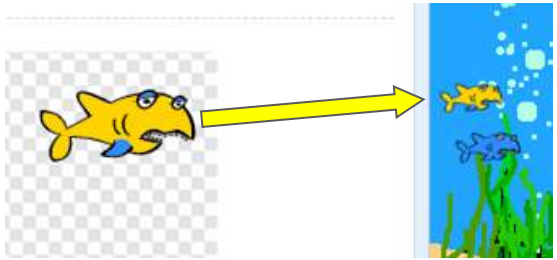
Choose a color

Fill in color

It's ready!







Repaint other sharks in different colors

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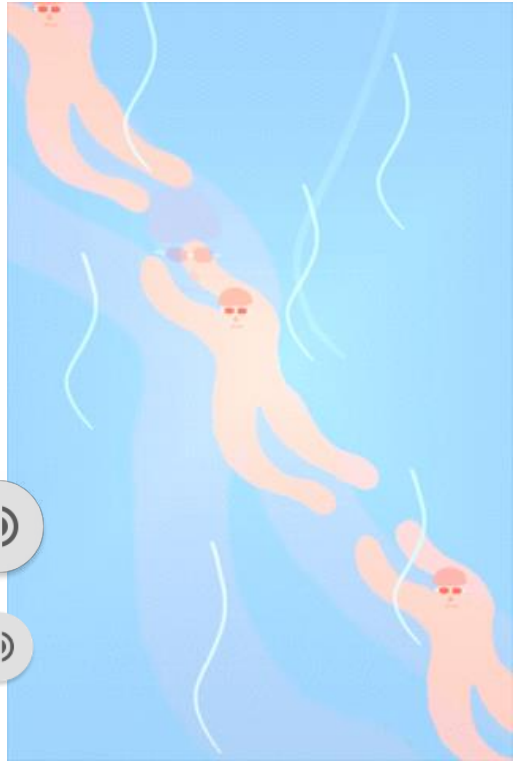
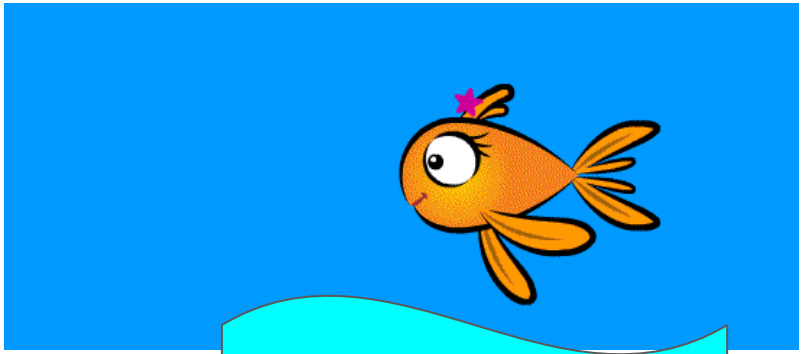
Physical Activity Breaks





There is a great strength in water