

Jumping

Jumping from floor to floor.



Jumping



Get ready

Chose a sprite or draw your own, then add two small colored points under the feets:



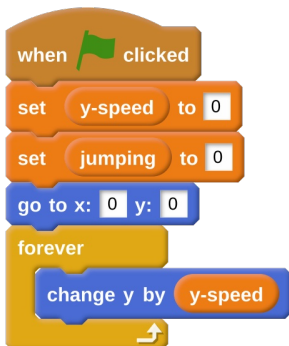
We will use them to detect when the sprite touches the ground.

Finally we need two variables:

y-speed

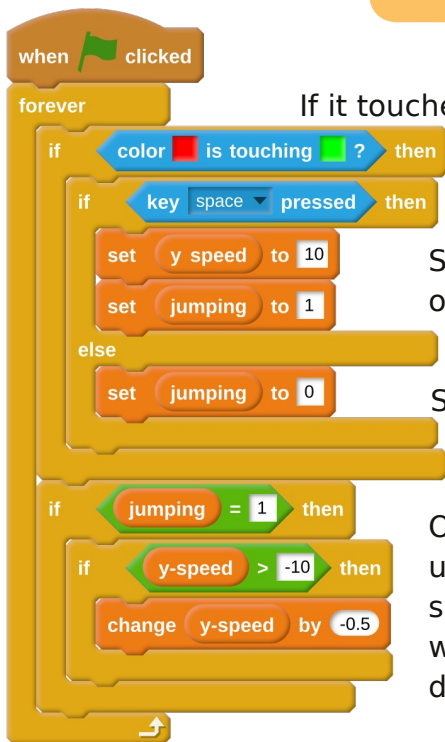
jumping

Try this code



Initialize the jump variables and use y-speed to move up and down

Try this code



```
when green flag clicked
  forever loop
    if color red is touching green ? then
      if key space pressed then
        set y speed to 10
        set jumping to 1
      else
        set jumping to 0
    if jumping = 1 then
      if y-speed > -10 then
        change y-speed by -0.5
```

If it touches the ground

Start a jump on space.

Stop jumping.

On the way up slow down, speed up when going down.

Do it



Click the green flag to start

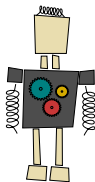
How it works

The first part of the program initializes the vertical (y) speed, the "jumping state" and the initial position to 0.

Then it starts an infinite loop that takes care of the vertical movement by using the y-speed variable.

The second part of the program keeps on checking if the red points are touching the ground. If it's the case, it starts a new jump when the space key is pressed. Or stops the jump if we just landed on the ground.

While the character is jumping, the vertical speed is reduced by 0.5 until the maximal downwards speed of -10 is reached.



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Based on <https://wiki.scratch.mit.edu/wiki/Jumping>