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STEP by STEP

ROBOTICS

Traffic Light

Lesson Objectives

- Assemble a circuit with several LEDs to build a traffic light.
- Use digital output blocks with different pins
- View the traffic light on the screen of our PC.
- Learn how to change the stage scenery.
- Introduce the algorithm concept

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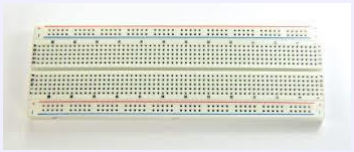
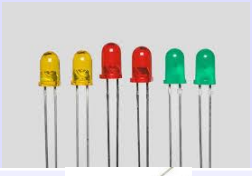
Material and resources to use

Nome	Figura	Descrição
Arduino		Arduino Uno and USB cable
Breadboard		Breadboard with 840 pins
Led´s		Led´s with 3 colors: red, ellow and green verde
Electrical Resistors		Resistor of 100Ω

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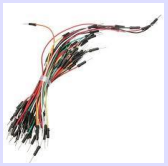
Material and resources to use

Nome	Figura	Descrição
Cables		Cables to connetions
Software MBlock		Development Software
Tablet		Device build program
Computer		Device build program

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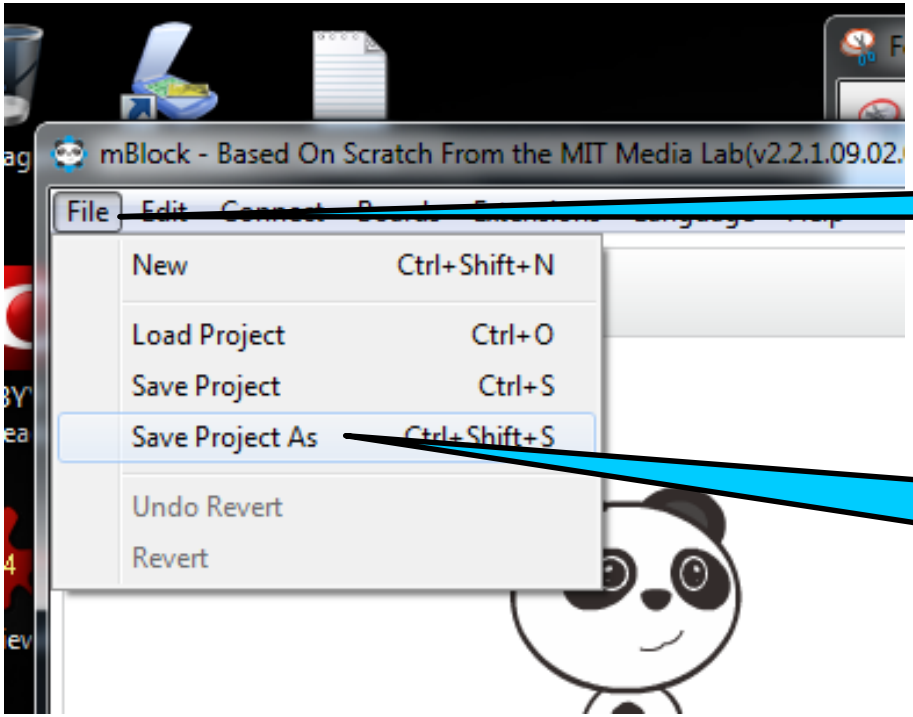
Traffic light drawing



Click in“File”

Click in“Save Project As” with name *TF*

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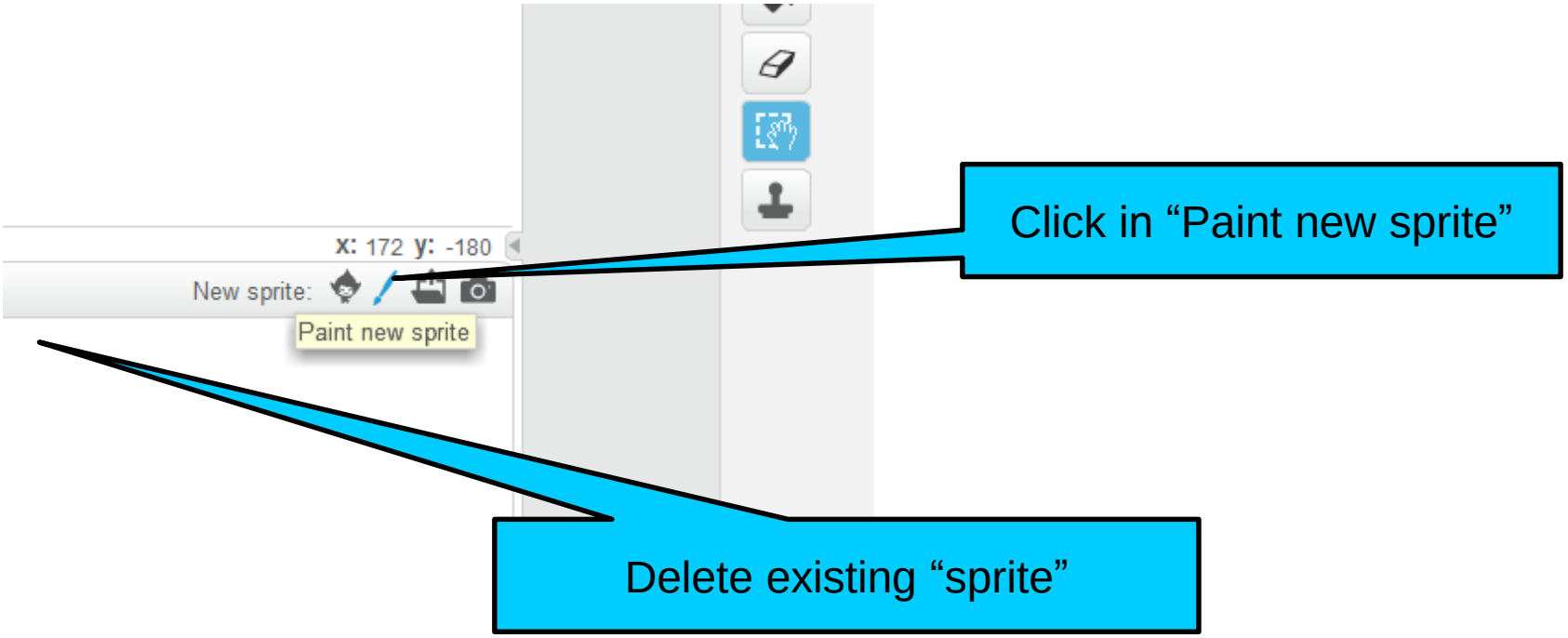
Traffic light drawing



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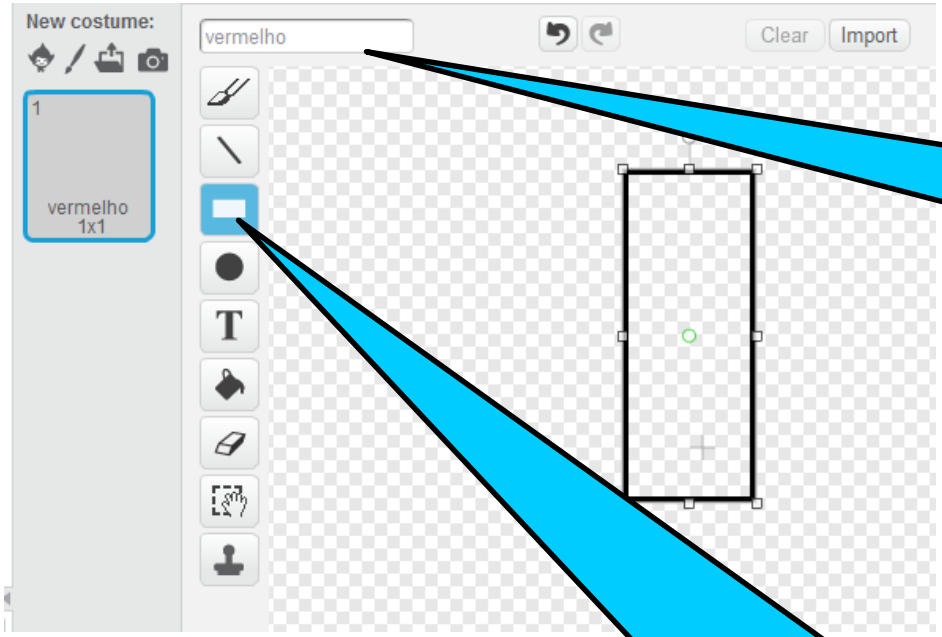
Traffic light drawing



Select in the text box and type "red"

Select rectangle and draw in drawing area

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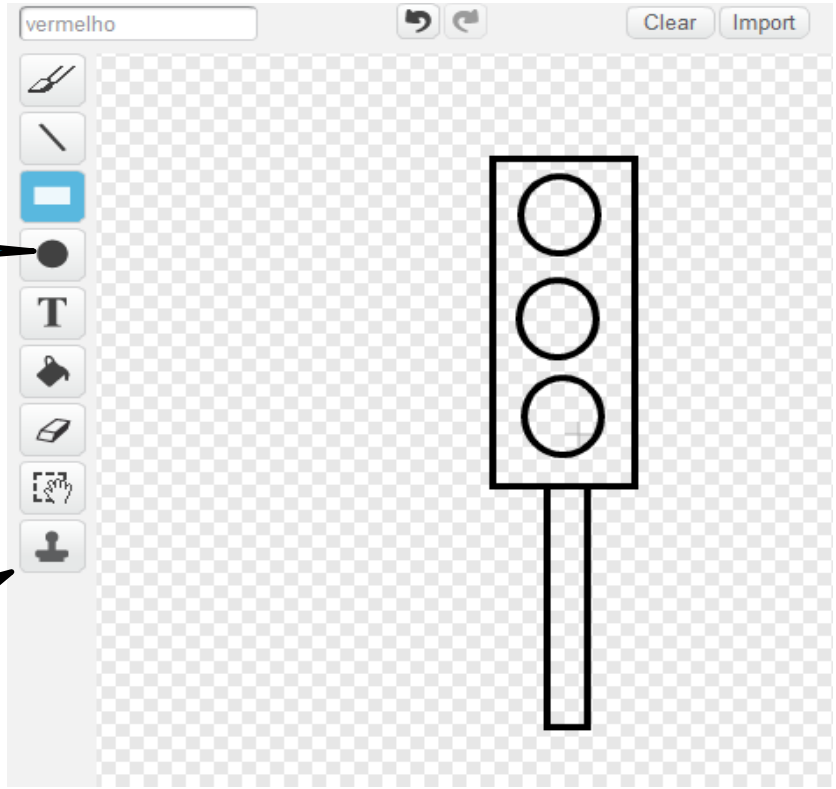
Traffic light drawing

Select circle and draw in drawing area

Select and copy. Selects the first circle and drags down



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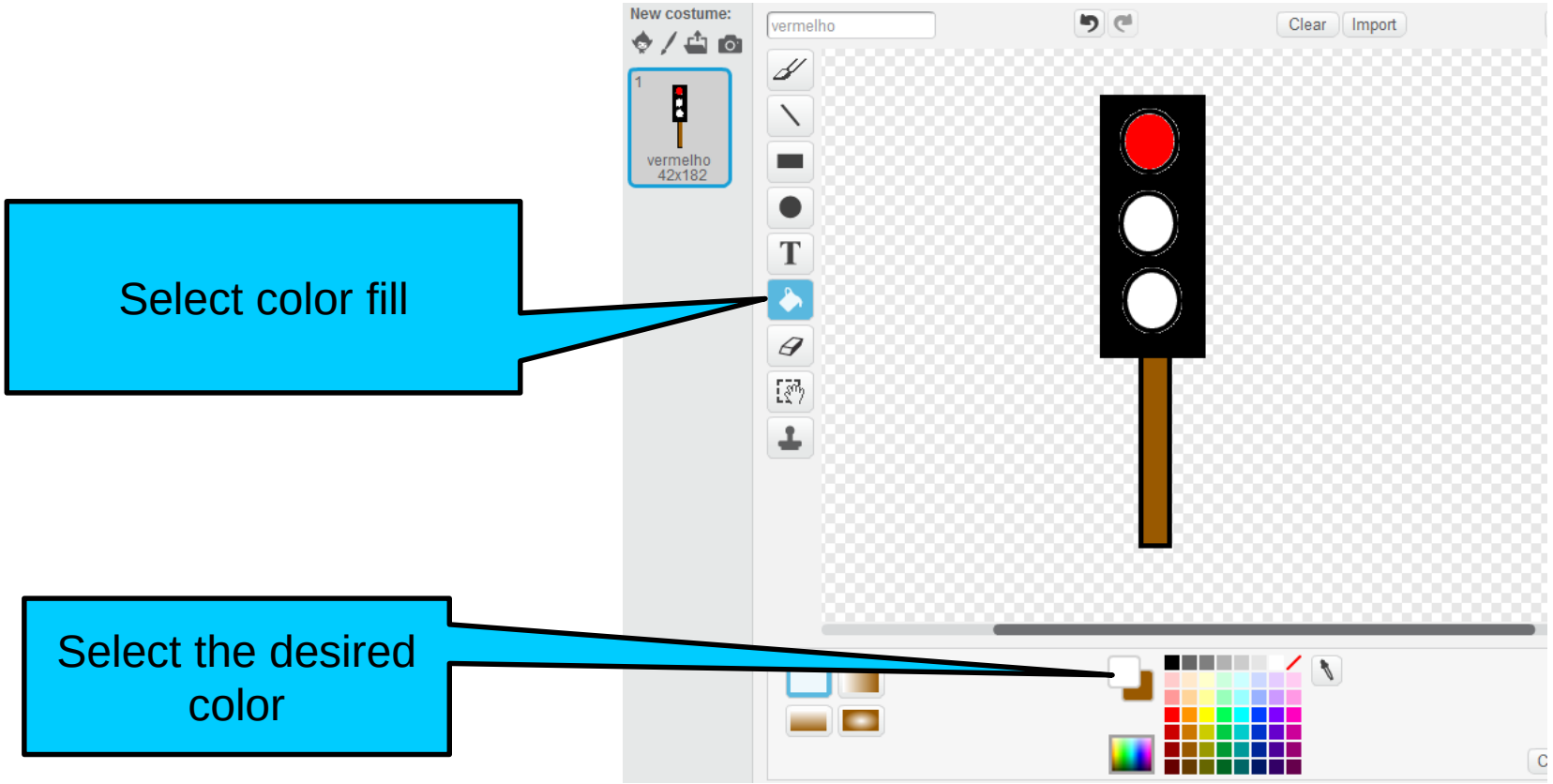
Traffic light drawing



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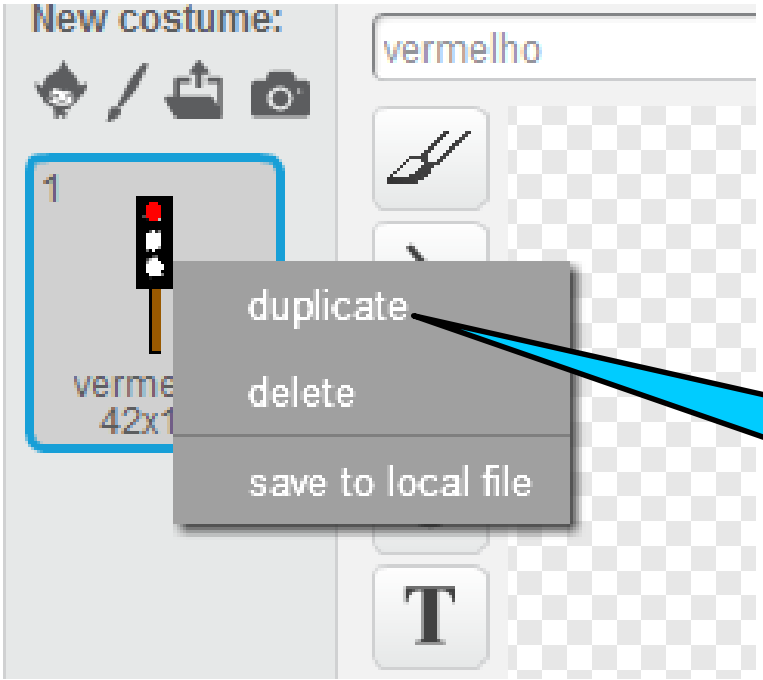
Traffic light drawing



Select "red" and click on the mouse on the right and select "duplicate"

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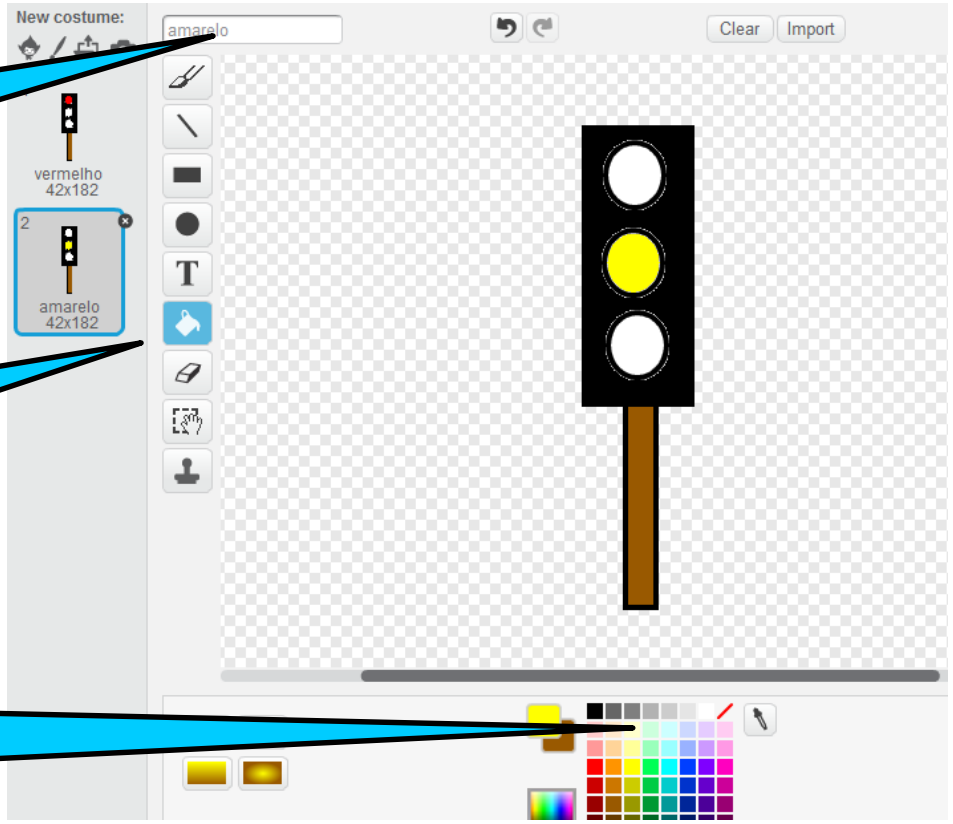
Traffic light drawing

Select in the text box and type "yellow"

Select color fill

Select the desired color



Do the same for the green

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Traffic light drawing

Select picture "route66"

Select“ backdrop”

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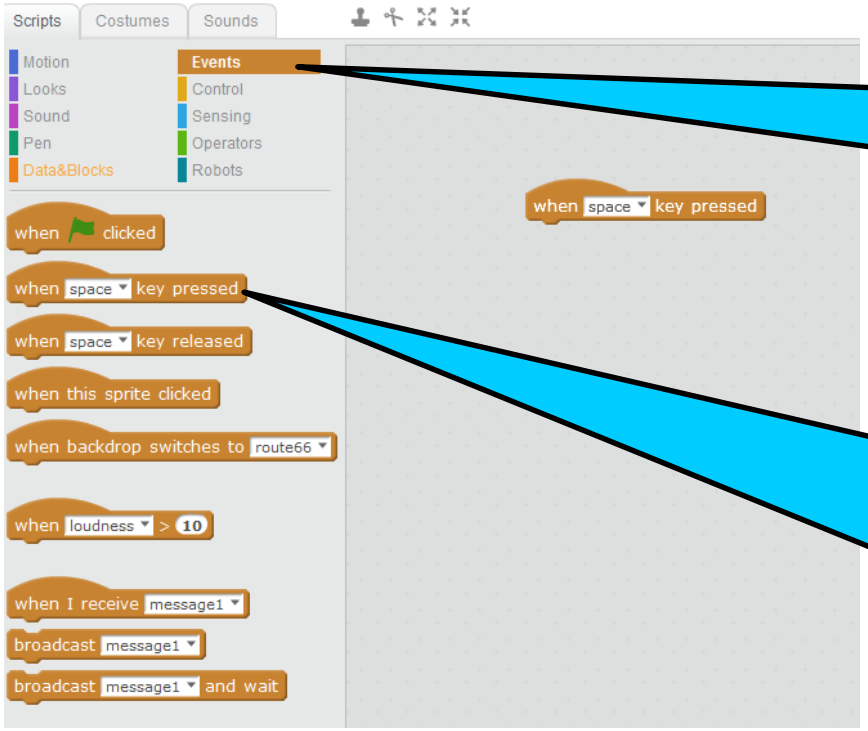
ROBOTICS - Traffic Light

Programming

Select“ Scripts”



Select” Events”

Select by left-clicking and dragging to the desktop. Then release the mouse button

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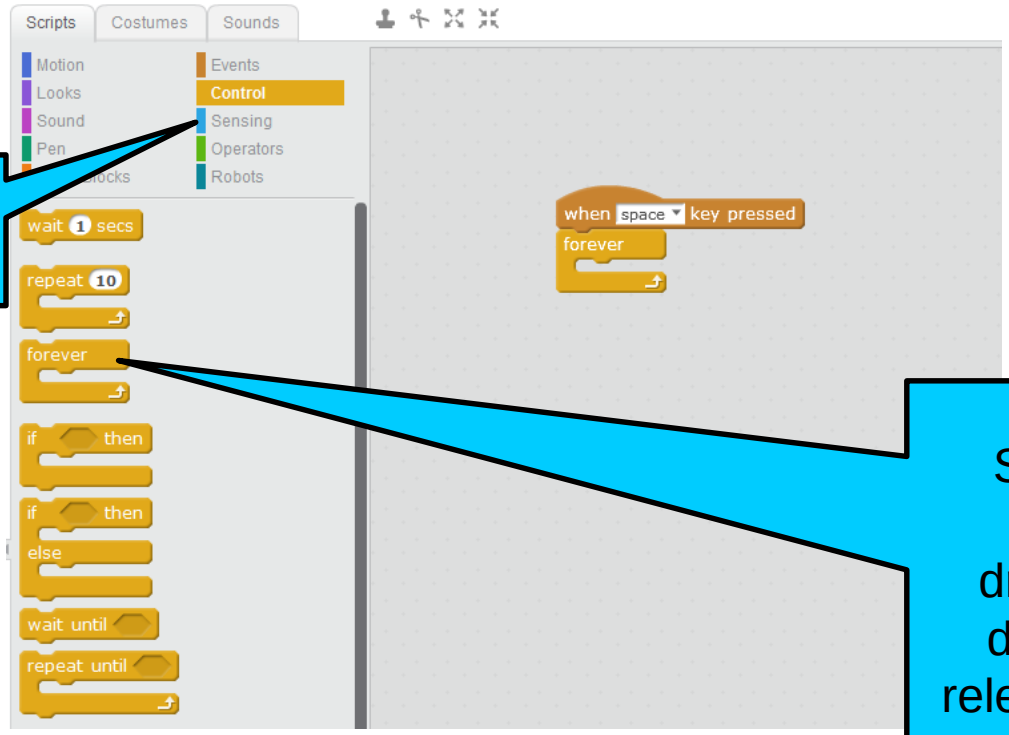
Programming

Select“ Control”



Select by left-clicking and dragging to the desktop. Then release the mouse button

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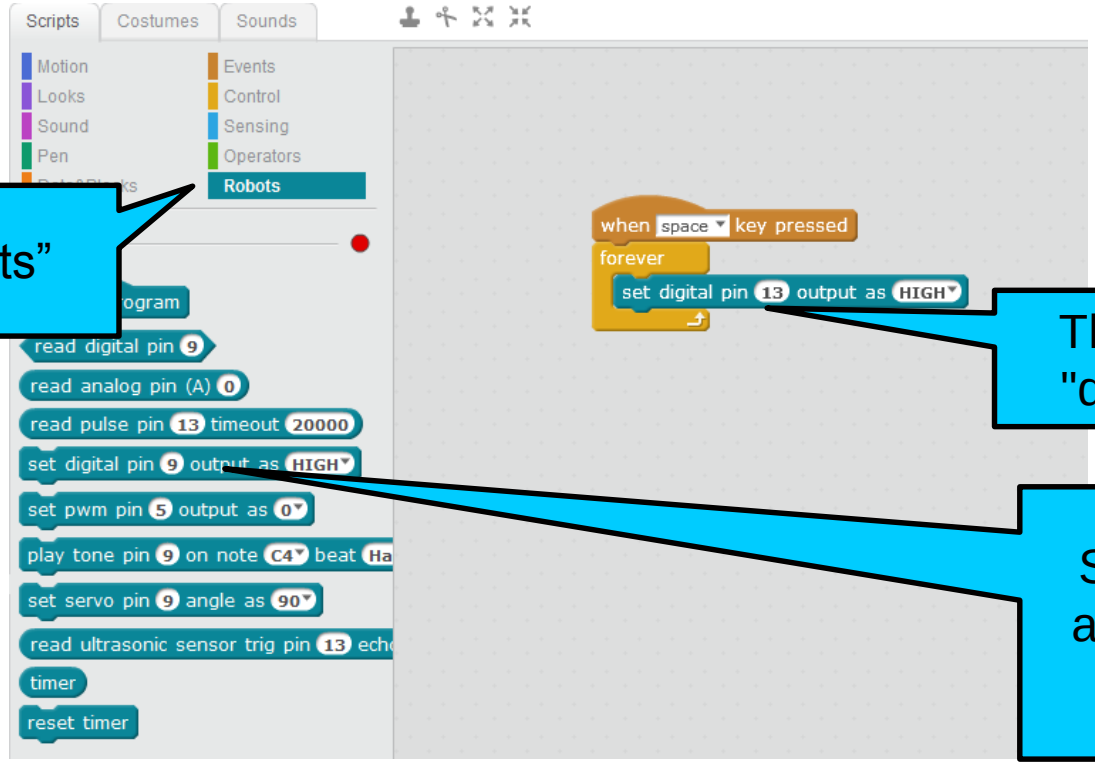
ROBOTICS - Traffic Light

Programming



Select“ Robots”

Then change the "digital pin" to 13

Select this block and drag it to the desktop.

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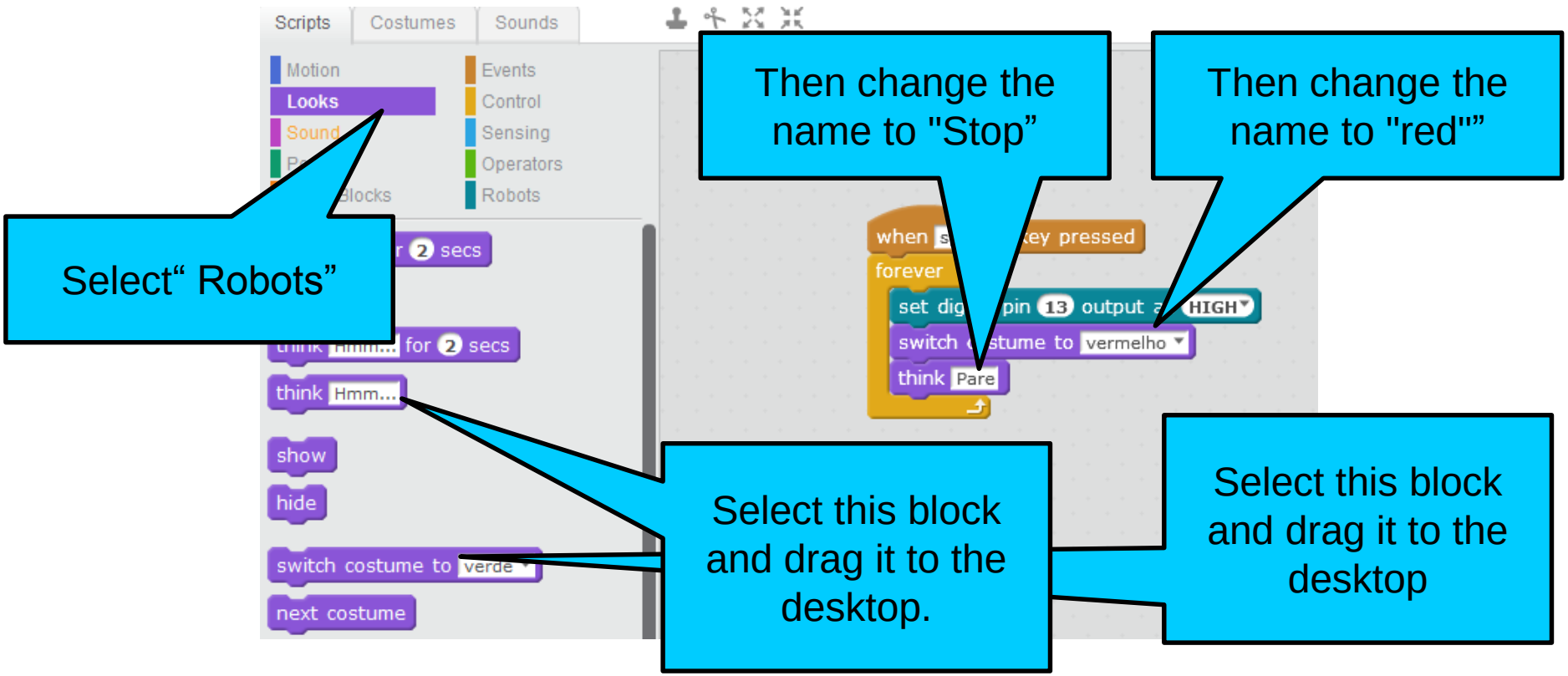
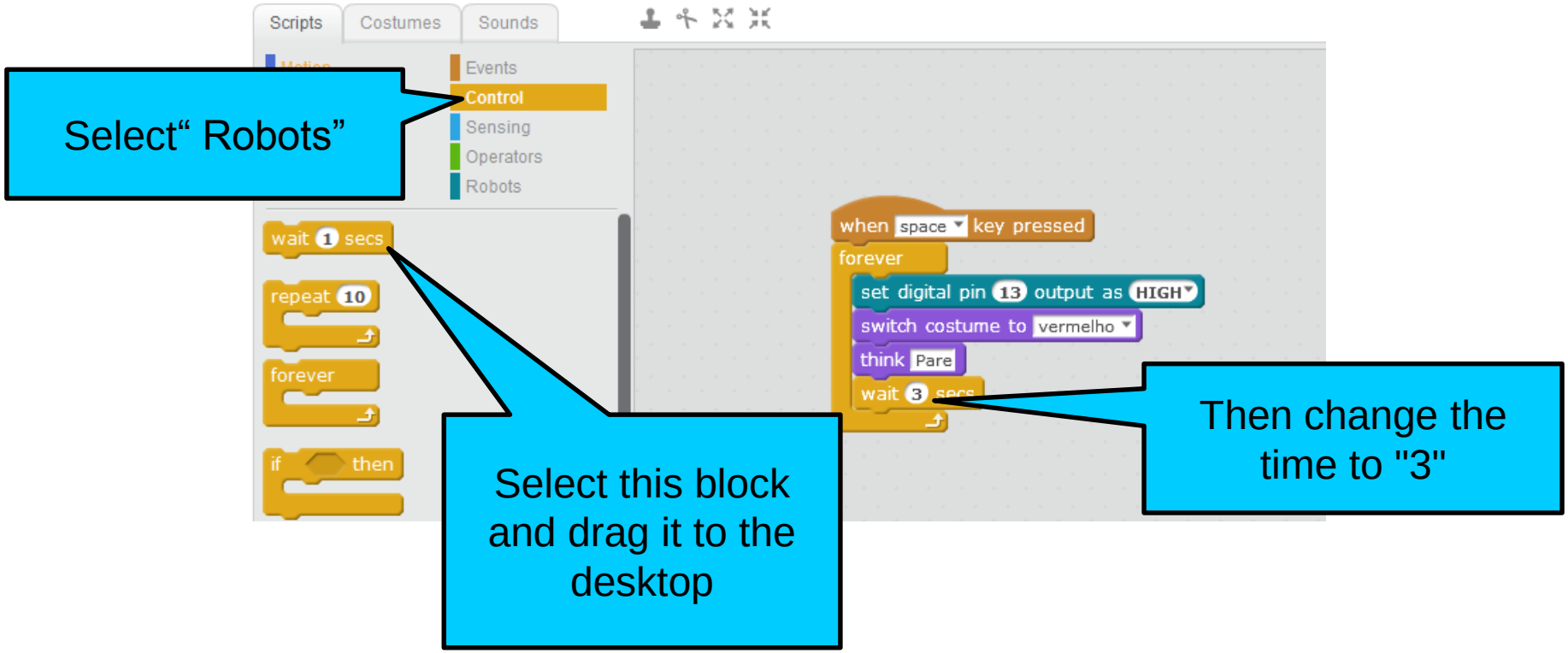
ROBOTICS - Traffic Light

Programming



Programming



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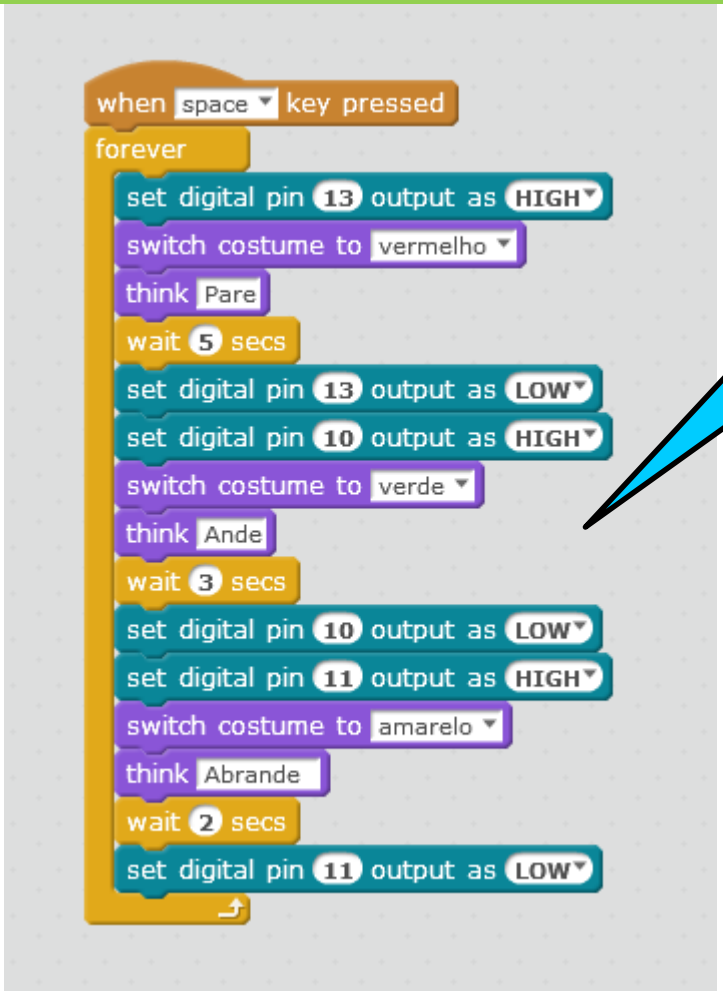
Programming



Add the remaining blocks

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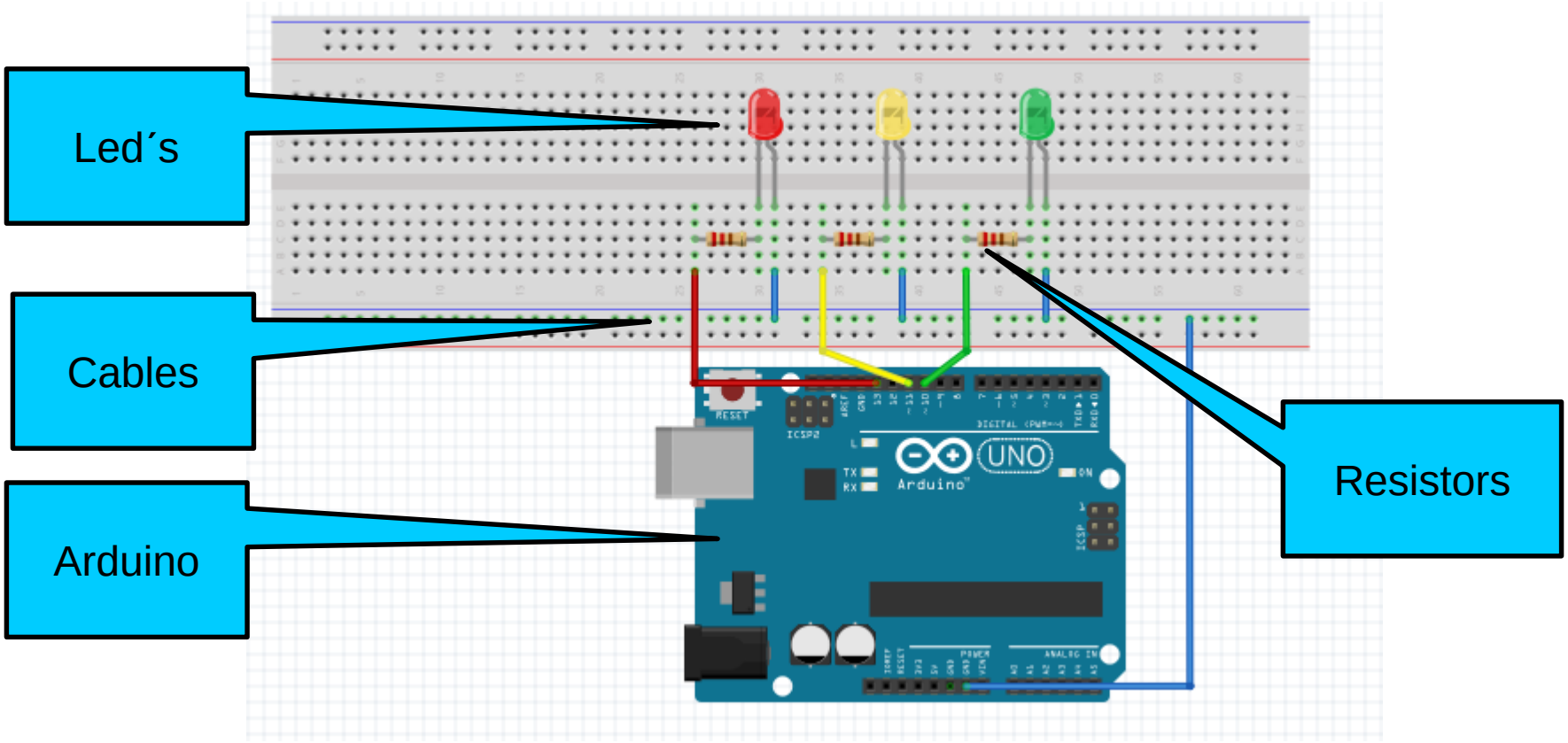
Circuit design



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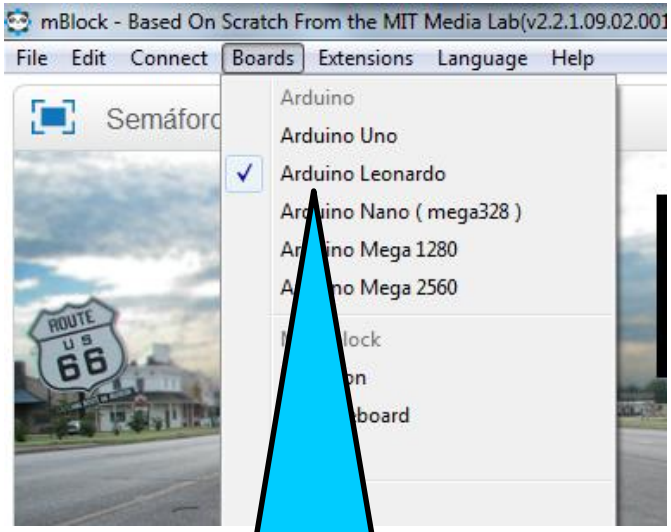
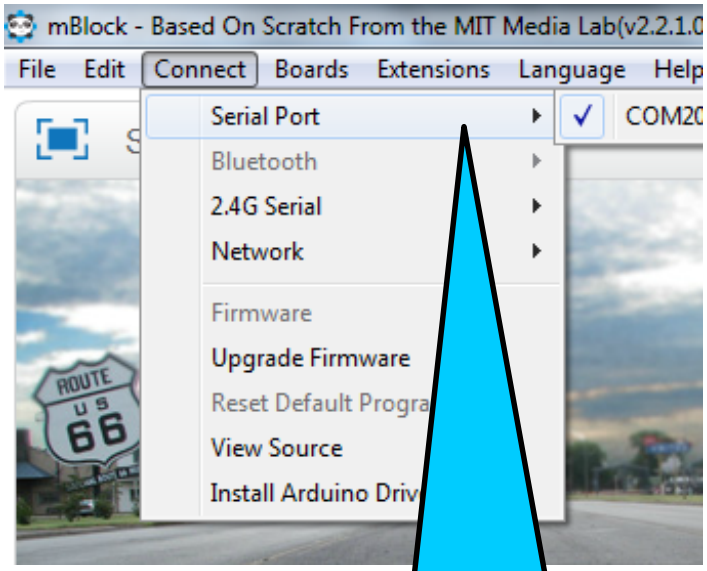
Upload the program



Click on "Boards" and select the Arduino to use



Click "Connect" and then "Serial Port" and select "COM"

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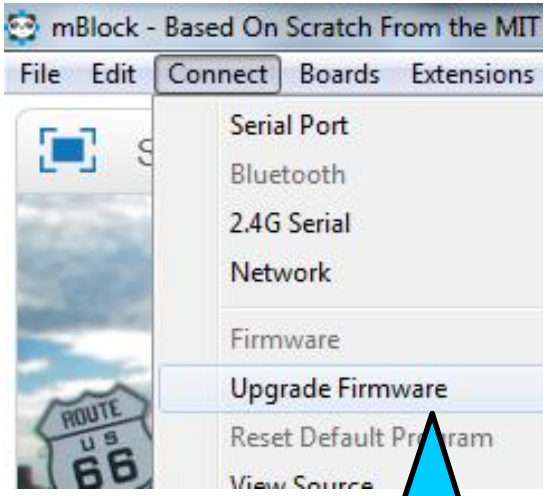
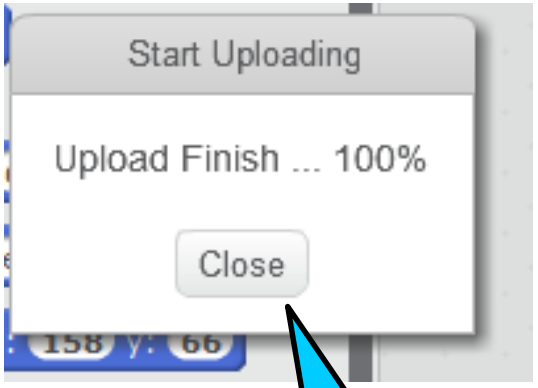
Upload the program



Click "Connect" and select "Upgrade Firmware"



When you finish "Upload" click "Close"

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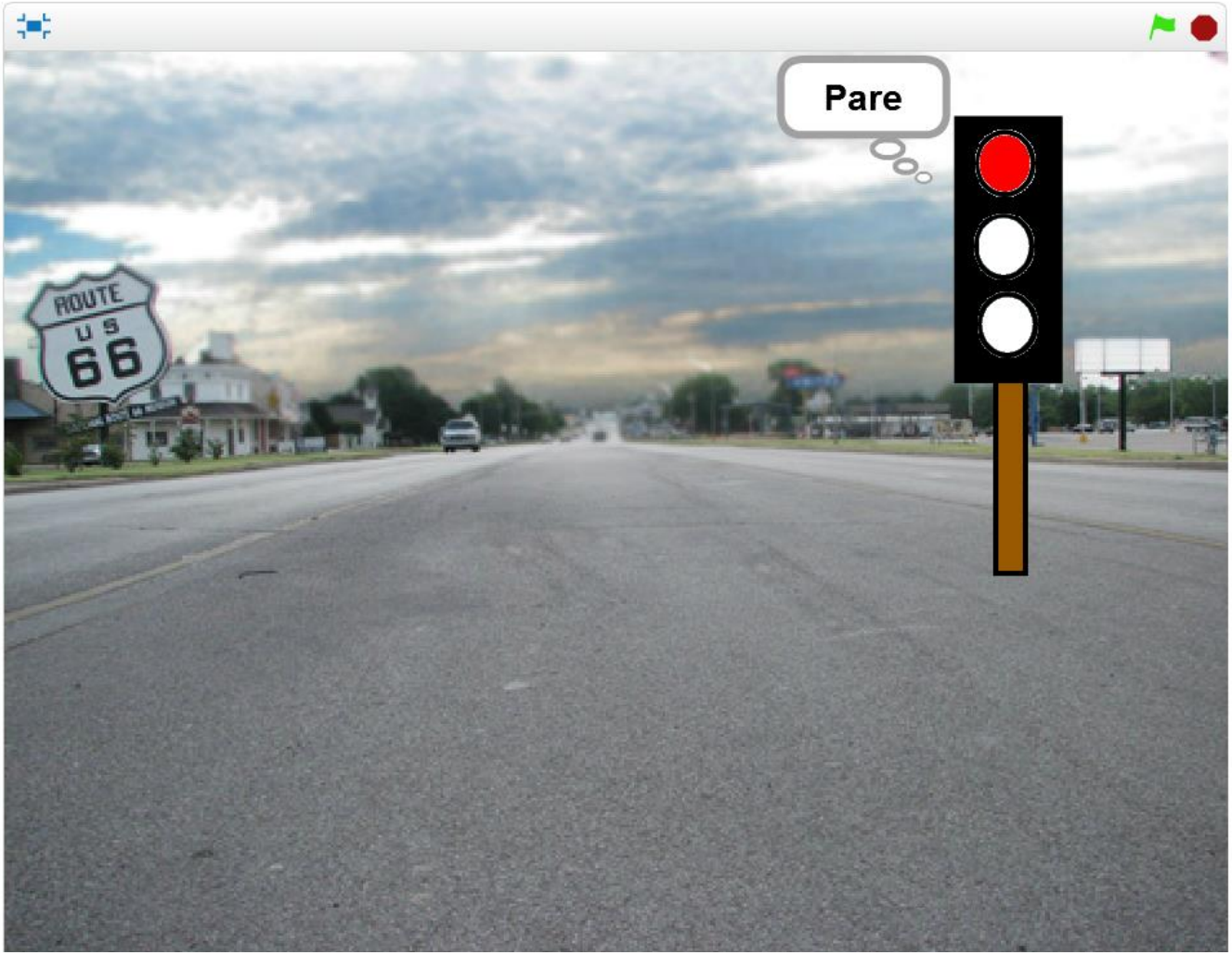
ROBOTICS - Traffic Light



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