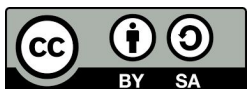




BLINKING LED



SCRATCH 1.4



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BLINKING LED



PAGE 2

OBJECTIVE

We are going to use a Raspberry Pi and Scratch to make an LED blink on and off.

GETTING STARTED

To open scratch click on Menu -> Programming -> Scratch



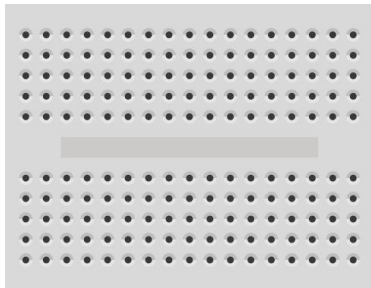
BLINKING LED



PAGE 3

BUILDING THE CIRCUIT

You will need the following electronic components to build the circuit.



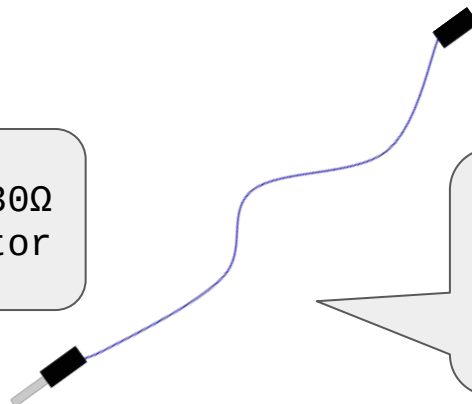
1 x
Breadboard



1 x LED



1 x 330 Ω
resistor



2 x Male to
Female
Jumper wires



BLINKING LED

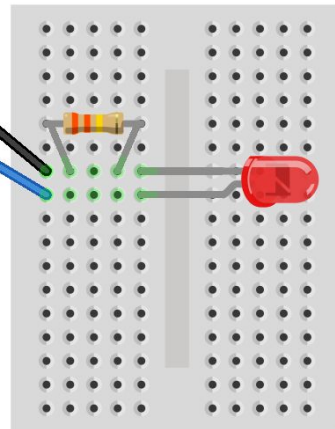
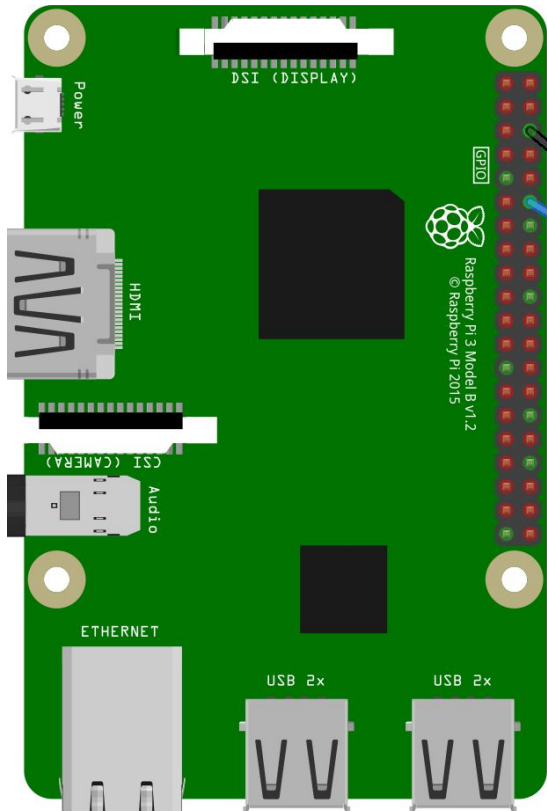


PAGE 4

BUILDING THE CIRCUIT



LEDs have a positive and negative leg. The longer leg is the positive leg. This is shown as the bent leg here.



Negative = GND
Positive = pin 18



BLINKING LED



PAGE 5

CODE



➤ The first block of code tells the program to run when the green flag is clicked.

➤ The second block tells Scratch to interact with the GPIO (General Purpose Input Output) pins on the Raspberry Pi.

➤ The third block of code configures pin 18 as an output.

➤ The fourth block makes your code repeat forever or until the red dot next to the green flag is clicked.

➤ The fifth block of code tells the raspberry pi to turn pin 18 on, which is where your LED is attached.

➤ The sixth block makes the code pause for 1 second.

➤ The seventh block turns pin 18 off which turns the LED off.

➤ The eighth block tells the code to pause for 2 seconds before starting again.



BLINKING LED



PAGE 6

RUNNING THE CODE

To Run the code click on the green flag above Felix the cat. You should see the LED turn on for 1 second and turn off again for 2 seconds. This will keep going until you click on the red circle above Felix.

If nothing is happening make sure you have your circuit wired correctly and your code matches page 5.

CHALLENGE

Why not try adding a second LED.