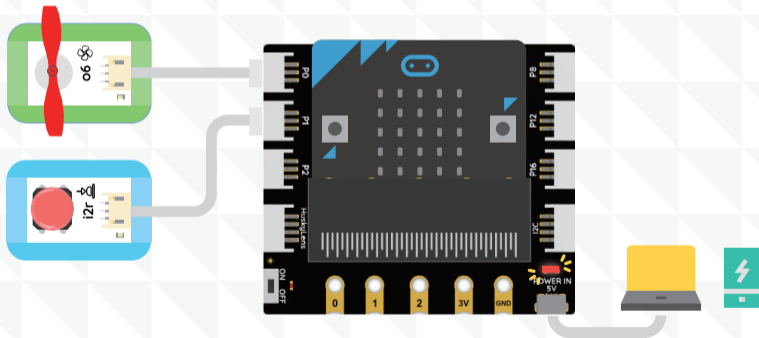


BOSON Project 1 Mini Fan

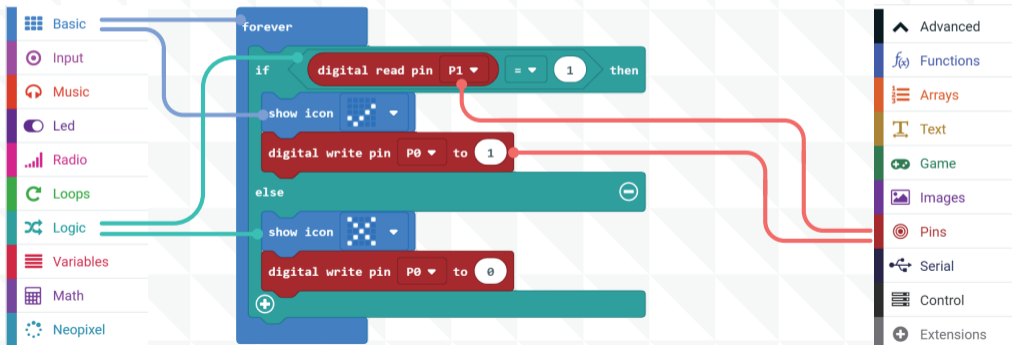
Connection Diagram



Note: External power supply needed

BOSON Project 1 Mini Fan

Blocks Editor Sample Program



The image displays a Scratch Blocks Editor interface with a sample program for a Mini Fan project. The program is a 'forever' loop that checks the state of a digital pin (P1) and controls a fan (P0) accordingly.

Left Panel (Category List):

- Basic
- Input
- Music
- Led
- Radio
- Loops
- Logic
- Variables
- Math
- Neopixel

Right Panel (Category List):

- Advanced
- Functions
- Arrays
- Text
- Game
- Images
- Pins
- Serial
- Control
- Extensions

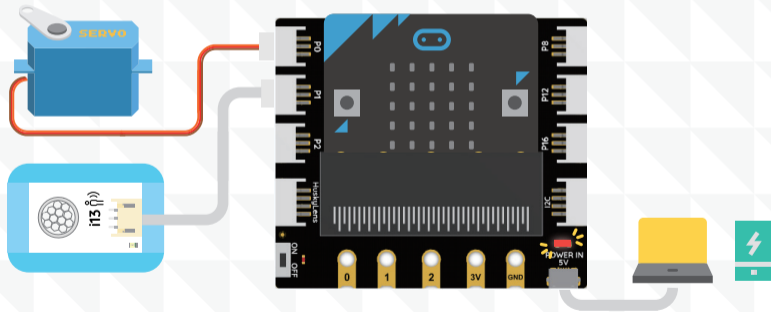
Program Logic:

```
forever loop
  if (digital read pin P1 = 1) then
    show icon (fan icon)
    digital write pin P0 to 1
  else
    show icon (fan icon)
    digital write pin P0 to 0
```

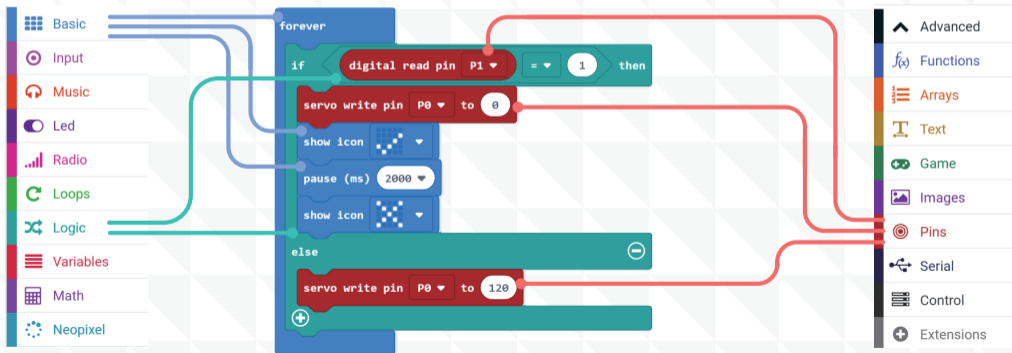
The program consists of a 'forever' loop block. Inside the loop, there is an 'if' block that checks if the digital read pin P1 is equal to 1. If true, it shows a fan icon and sets the digital write pin P0 to 1. If false, it shows a fan icon and sets the digital write pin P0 to 0.

BOSON Project 2 Automatic Door

Connection Diagram



Note: External power supply needed

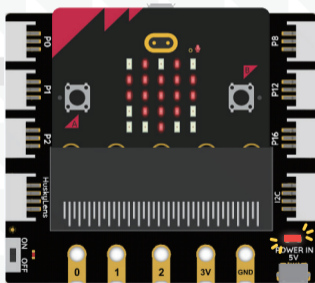
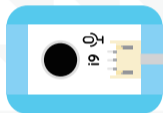
 Blocks Editor Sample Program

The image displays the Scratch Blocks Editor interface for a sample program titled "Automatic Door". The program is structured as follows:

- forever** loop:
 - if** `digital read pin P1` `=` `1` **then**:
 - `servo write pin P0` `to` `0`
 - `show icon` (graph icon)
 - `pause (ms)` `2000`
 - `show icon` (grid icon)
 - else**:
 - `servo write pin P0` `to` `120`

The interface includes a left sidebar with categories: Basic, Input, Music, Led, Radio, Loops, Logic, Variables, Math, and Neopixel. A right sidebar lists categories: Advanced, Functions, Arrays, Text, Game, Images, Pins, Serial, Control, and Extensions. Red lines connect the code blocks to their respective categories in the right sidebar.

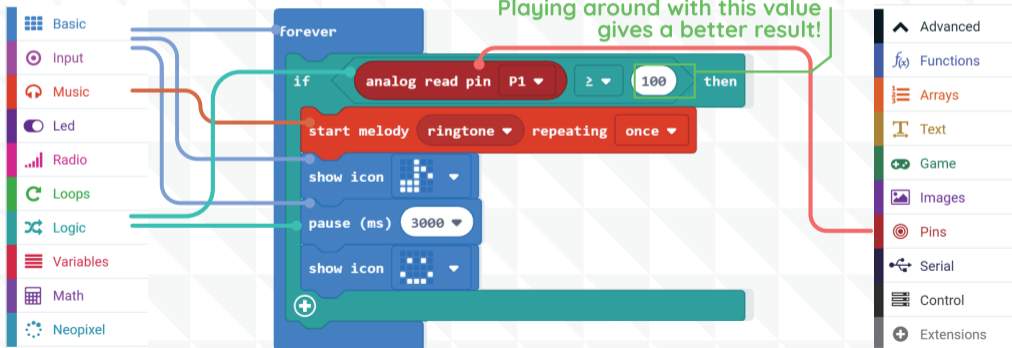
Connection Diagram



* Only support micro:bit V2 with sound (or use MakeCode simulator instead)



Note: External power supply needed

 **Blocks Editor Sample Program**

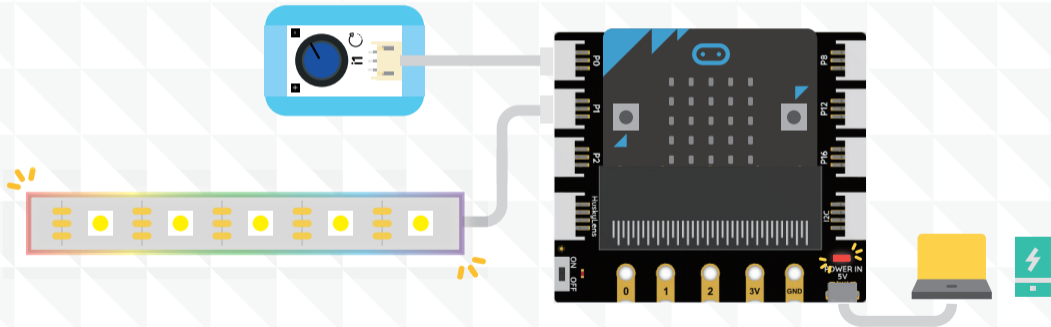
The image displays a Scratch Blocks Editor interface with a sample program for a sound-activated music player. The program is structured as follows:

- Forever Loop:** A blue 'Forever' loop block containing the following sequence:
 - Logic:** An 'if' block with the condition 'analog read pin P1' greater than or equal to '100'. A green callout box highlights the '100' value with the text 'Playing around with this value gives a better result!'.
 - Music:** A 'start melody' block set to 'ringtone' and 'repeating once'.
 - Visuals:** A 'show icon' block.
 - Timing:** A 'pause (ms)' block set to '3000'.
 - Visuals:** A second 'show icon' block.

The left sidebar shows the following categories: Basic, Input, Music, Led, Radio, Loops, Logic, Variables, Math, and Neopixel. The right sidebar shows: Advanced, Functions, Arrays, Text, Game, Images, Pins, Serial, Control, and Extensions.

BOSON Project 4 Rainbow Light

Connection Diagram



BOSON Project 4 Rainbow Light

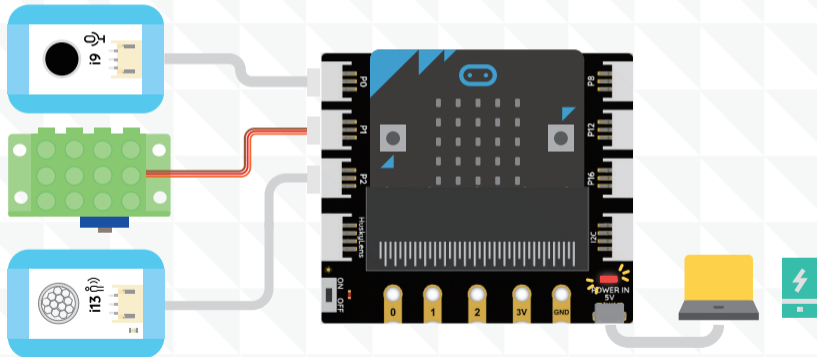
Blocks Editor Sample Program

The image shows a screenshot of the MicroPython Blocks Editor interface. On the left is a sidebar with various block categories: Basic, Input, Music, Led, Radio, Loops, Logic, Variables, Math, and Neopixel. On the right is another sidebar with categories: Advanced, Functions, Arrays, Text, Game, Images, Pins, Serial, Control, and Extensions. The main workspace contains a program starting with an 'on start' block followed by a 'set item to NeoPixel at pin P1 with 7 leds as RGB (GRB format)' block. Below this is a 'forever' loop containing a 'map' block for 'analog read pin P0' with 'from low 0' and 'from high 1000', 'to low 0' and 'to high 7'. Below the map block are three 'item' blocks: 'clear', 'range from 0 with LED Number leds show rainbow from 1 to 180', and 'show'. A blue arrow points from the 'Extensions' category in the right sidebar to the 'Neopixel' category in the left sidebar.

Click "Extensions" then select **neopixel** to add RGB LED support to your micro:bit

BOSON Project 5 Digital Pocket Pet

Connection Diagram



Note: External power supply needed

Blocks Editor Sample Program

The screenshot displays the Micro:bit Blocks Editor interface. On the left, a sidebar lists various block categories: Basic, Input, Music, Led, Radio, Loops, Logic, Variables, Math, and Neopixel. The main workspace contains a 'forever' loop block. Inside the loop, there is an 'if' block with two conditions: 'analog read pin P0 > 500' or 'digital read pin P2 = 1'. The 'if' block has three branches: 1) A 'then' branch containing a 'show icon' block (cat), a 'servo write pin P1 to 45' block, and a 'pause (ms) 200' block. 2) An 'else' branch containing a 'show icon' block (dog), a 'servo write pin P1 to 135' block, and a 'pause (ms) 200' block. 3) A final 'else' branch containing a 'show icon' block (dog), a 'servo write pin P1 to 90' block, and a 'pause (ms) 200' block. On the right, the 'Extensions' menu is open, showing categories like Advanced, Functions, Arrays, Text, Game, Images, Pins, Serial, Control, and Extensions. The 'neopixel' extension is highlighted in the 'Extensions' category.

Click "Extensions" then select **neopixel** to add RGB LED support to your **micro:bit**