2. Case 01: Traffic Lights
2.1. Introduction

In our daily life, many traffic accidents should have been avoided. These traffic accidents are often caused by people not observing the traffic rules, thus, we must understand the traffic rules. For example, the common traffic lights in our lives, red light means not passing, yellow light means warning, and green light means permission to pass. Let's make a traffic light controlled by the micro:bit.

2.2. Quick Start
Materials Required
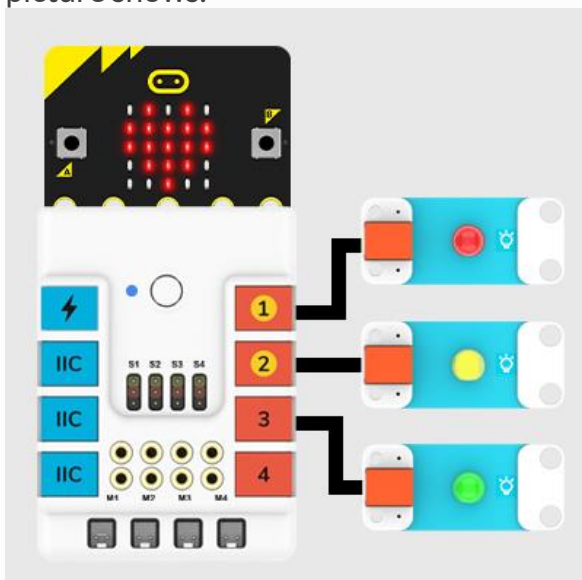
Nezha expansion board × 1

micro:bit × 1

LED-red × 1

LED-green × 1

LED-yellow × 1

RJ11 wires × 3
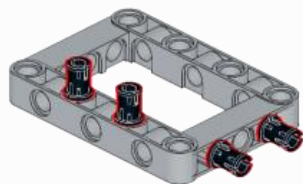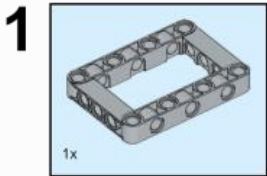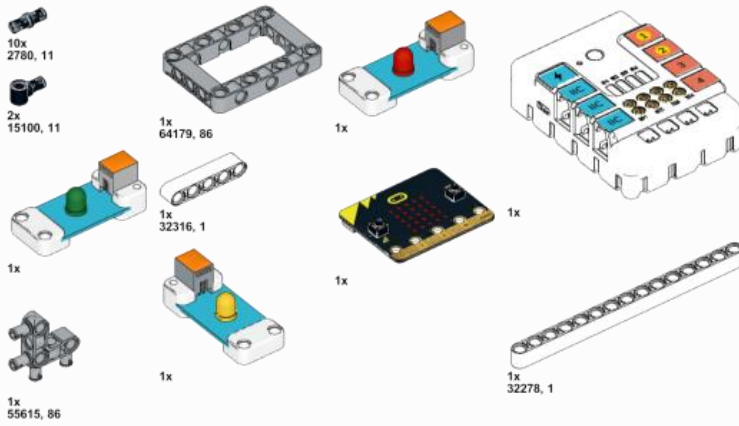
Connection Diagram

Connect the red LED to J1, yellow LED to J2 and green LED to J3 on the Nezha expansion board as the picture shows.

Assembly Video

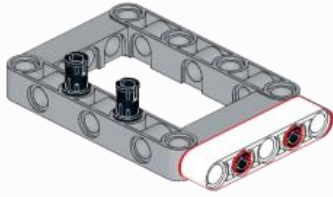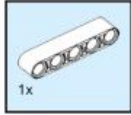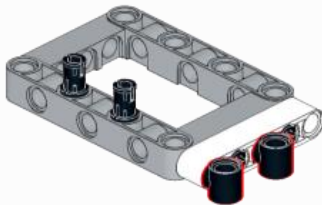Video reference: https://youtu.be/TmsDDWLcgcs

Assembly Steps

10x
2780, 11

2x
15100, 11

1x
64179, 86

1x

1x

1x
32316, 1

1x

1x

1x
55615, 86

1x

1x
32278, 1

1

1x

2

4x

3

1x

4

2x

5

1x

6

1x

7

6x

8

1x   1x   1x
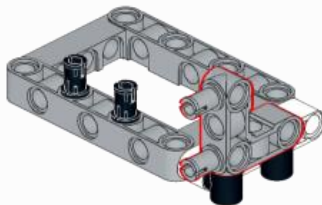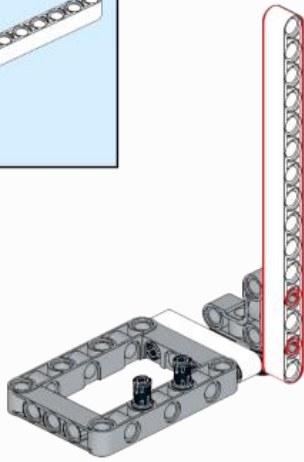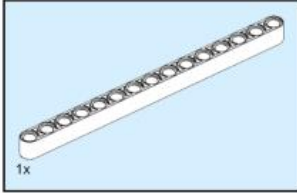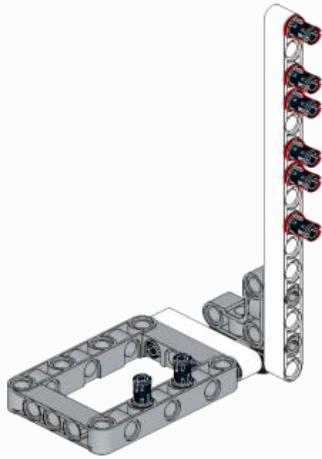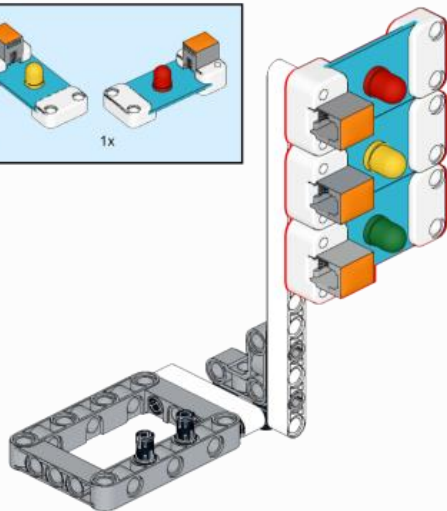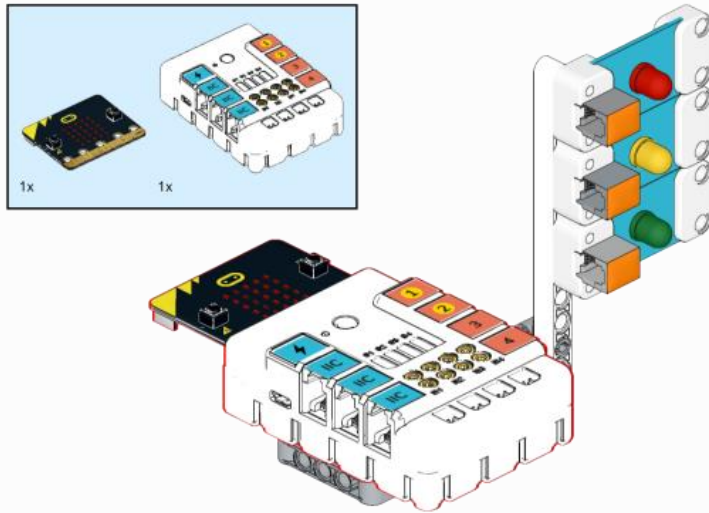
2.3. Makecode Programming
Step 1

Click "Advanced" in the MakeCode to see more choices.

For programming, we need to add a package: click "Extensions" at the bottom of the MakeCode drawer and search with "PlanetX" in the dialogue box to download it.

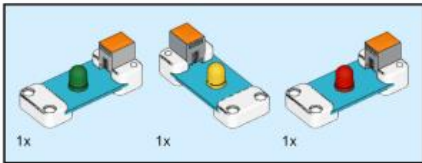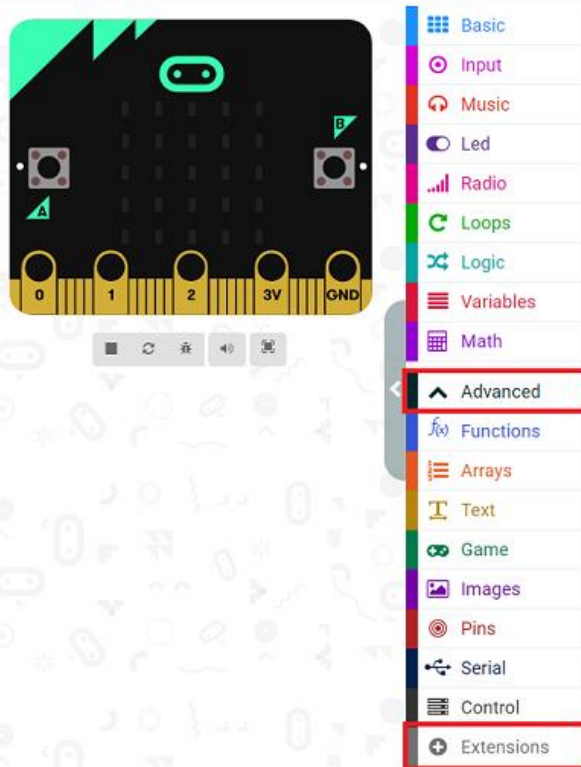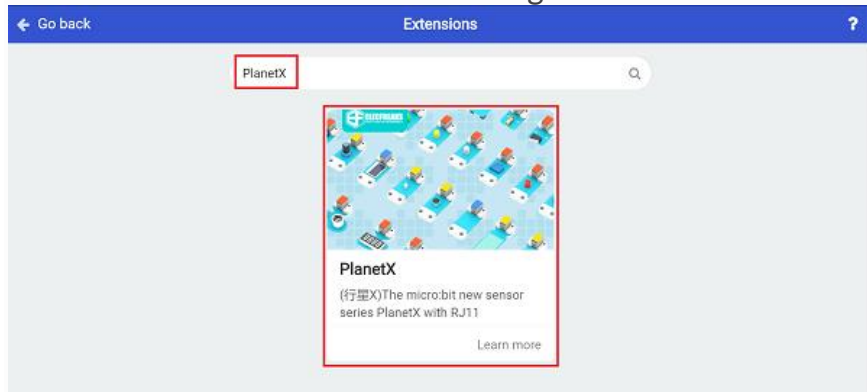Notice: If you met a tip indicating that some codebases would be deleted due to incompatibility, you may continue as the tips say or create a new project in the menu.

Step 2
Code as below:

```
on start
  show icon [icon]

forever
  LED J1 ▾ toggle to ON ⊕
  LED J3 ▾ toggle to OFF ⊕
  pause (ms) 5000 ▾
  LED J1 ▾ toggle to OFF ⊕
  LED J2 ▾ toggle to ON ⊕
  pause (ms) 2000 ▾
  LED J2 ▾ toggle to OFF ⊕
  LED J3 ▾ toggle to ON ⊕
  pause (ms) 5000 ▾
```

```
indításkor
  [icon] ▾ ikon megjelenítése

állandóan
  LED J1 ▾ toggle to BE ⊕
  LED J3 ▾ toggle to Ki ⊕
  5000 ▾ ms szünet
  LED J1 ▾ toggle to Ki ⊕
  LED J2 ▾ toggle to BE ⊕
  2000 ▾ ms szünet
  LED J2 ▾ toggle to Ki ⊕
  LED J3 ▾ toggle to BE ⊕
  5000 ▾ ms szünet
```

Reference
Link：https://makecode.microbit.org/_M6RiKA642WPP
You may also download it directly below:

Result

The red LED lights on for 5 seconds and then lights off; the yellow LED lights on for 2 seconds and off then; the green LED lights on for 5 seconds and off then.