3. Flowing sand

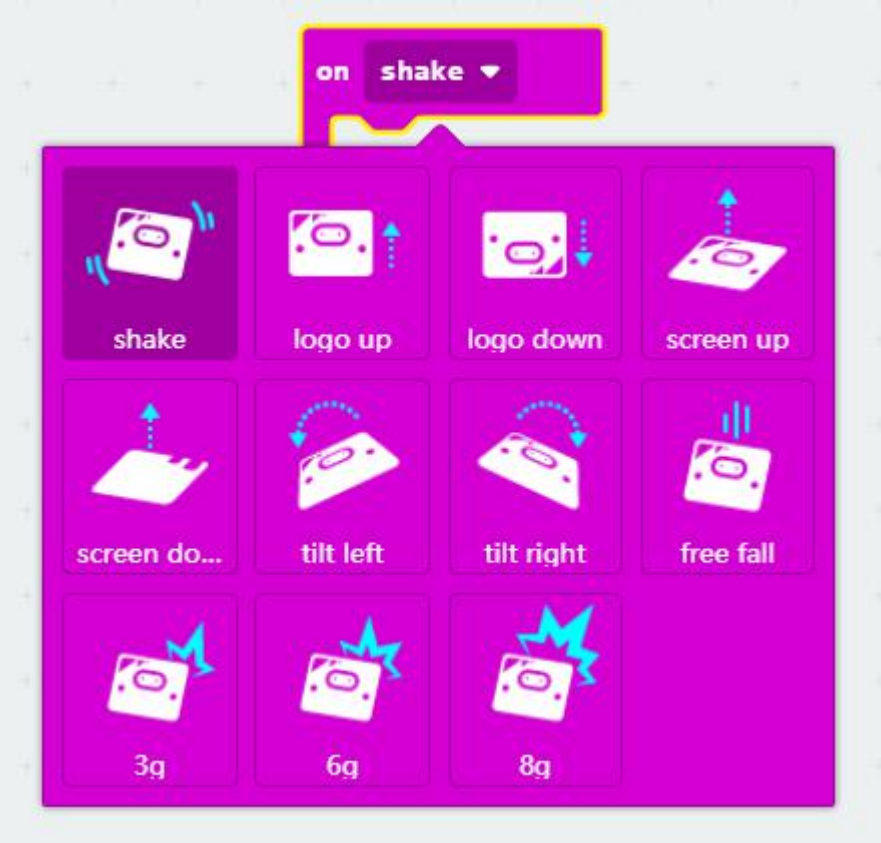
1. Learning goals

In this lesson, we will learn to use micro:bit to realize the effect of flowing sand.

2. Working principle

Micro:bit comes with an acceleration sensor. The internal program will continuously obtain data from the acceleration sensor and calculate Micro:bit attitude based on the data, such as shake, tilt, and free fall.

In this course, we mainly use the building blocks shown in the figure below.



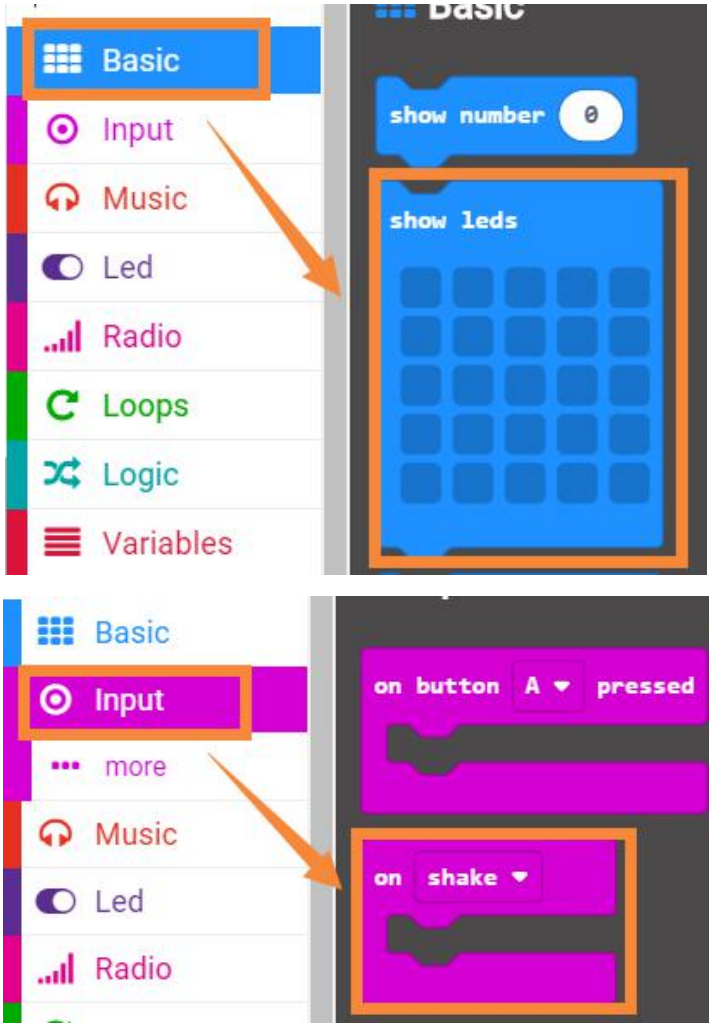
3. Programming method

Mode 1 online programming: First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: http://microbit.org/ to enter the programming interface to program.

Mode 2 offline programming: We need to open the offline programming software. After the installation is complete, enter the programming interface, click【New Project】, you can program.

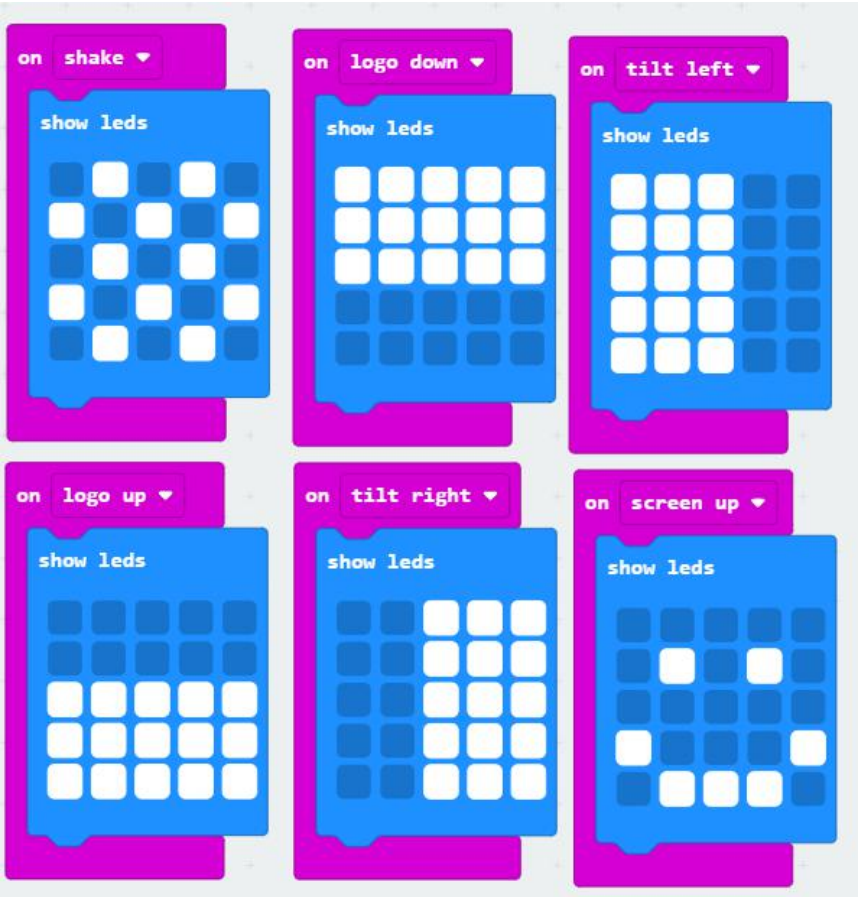
4. Looking for blocks

The following is the location of the building blocks required for this programming.



5. Combine block

The summary program is shown below.



6. Experimental phenomena

After the program is successfully downloaded.

When the lattice is facing upwards, the micro:bit board will show a smile, shake it to show a plate of loose sand, tilt the sand to the left to the left, tilt the sand to the right to the right, tilt the sand to the right, and tilt the sand to the bottom to the top.