5.Direction follower

1. Learning goals

In this lesson, we will learn to use micro:bit to make a simple compass (compass).

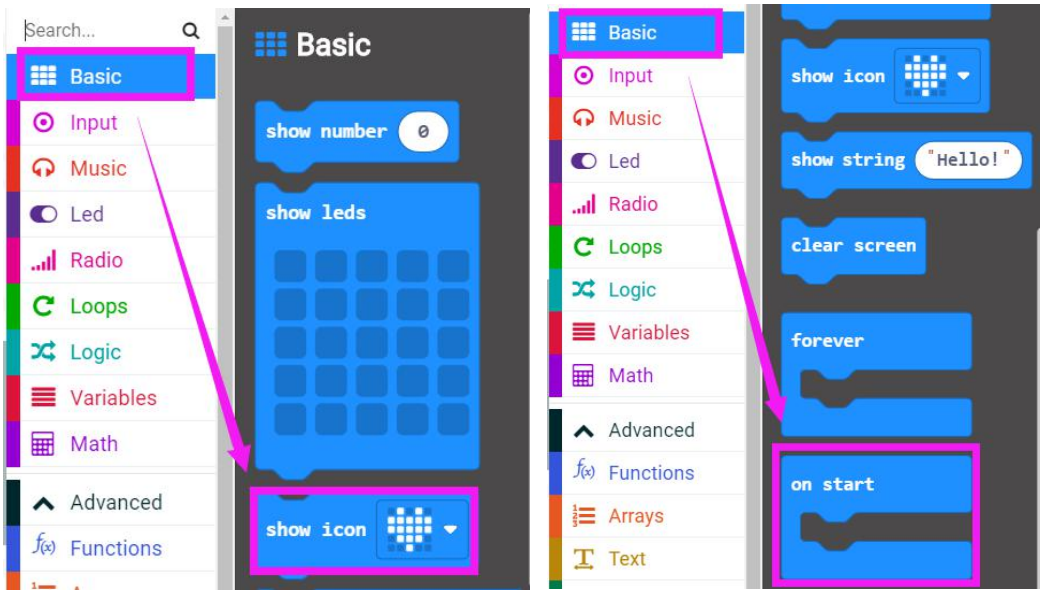
2. Programming method

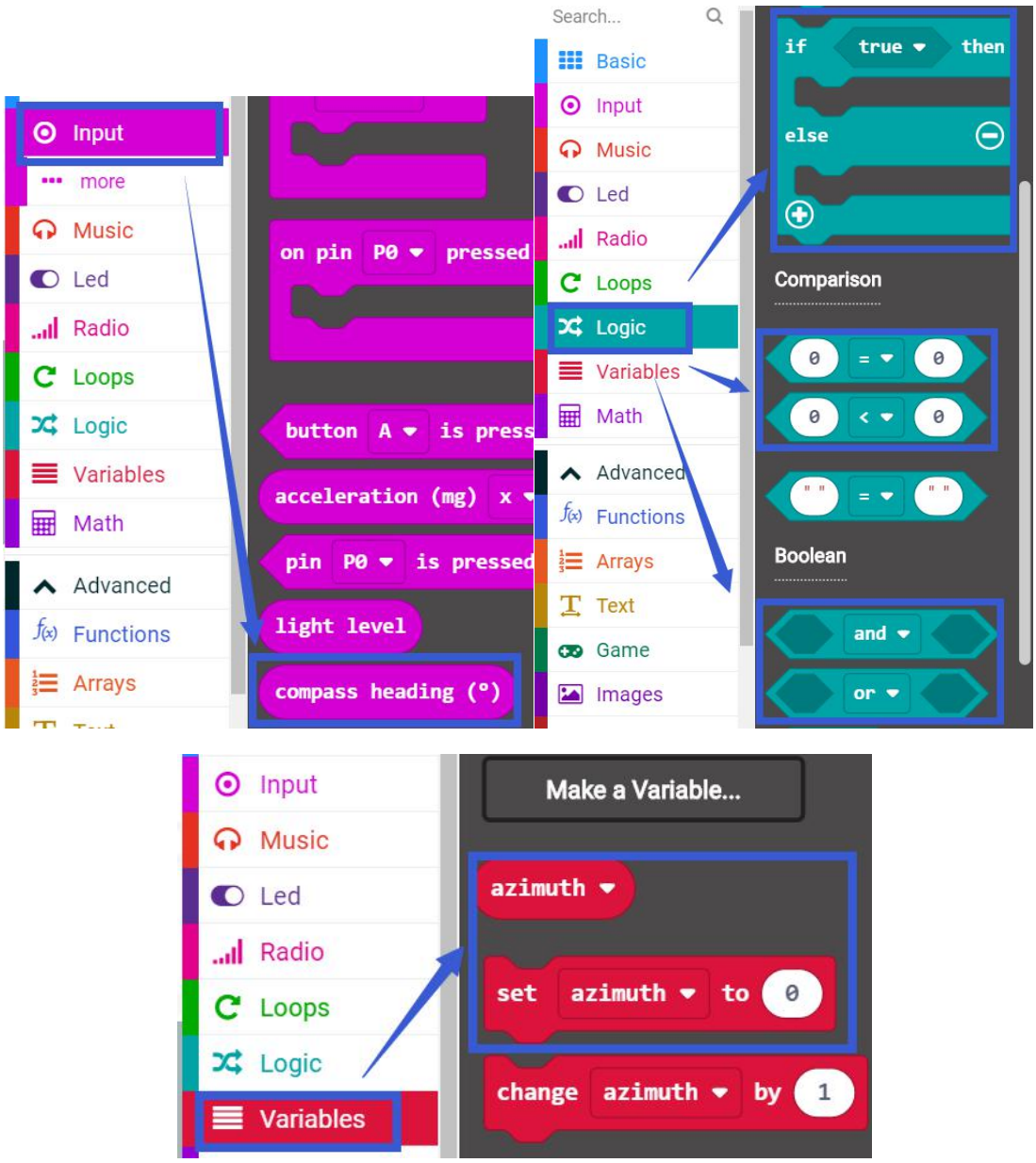
Mode 1 online programming: First, we need to connect the micro:bit to the computer by USB cable. The computer will pop up a USB flash drive and click on the URL in the USB flash drive: http://microbit.org/ to enter the programming interface to program.

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.

3. Looking for blocks

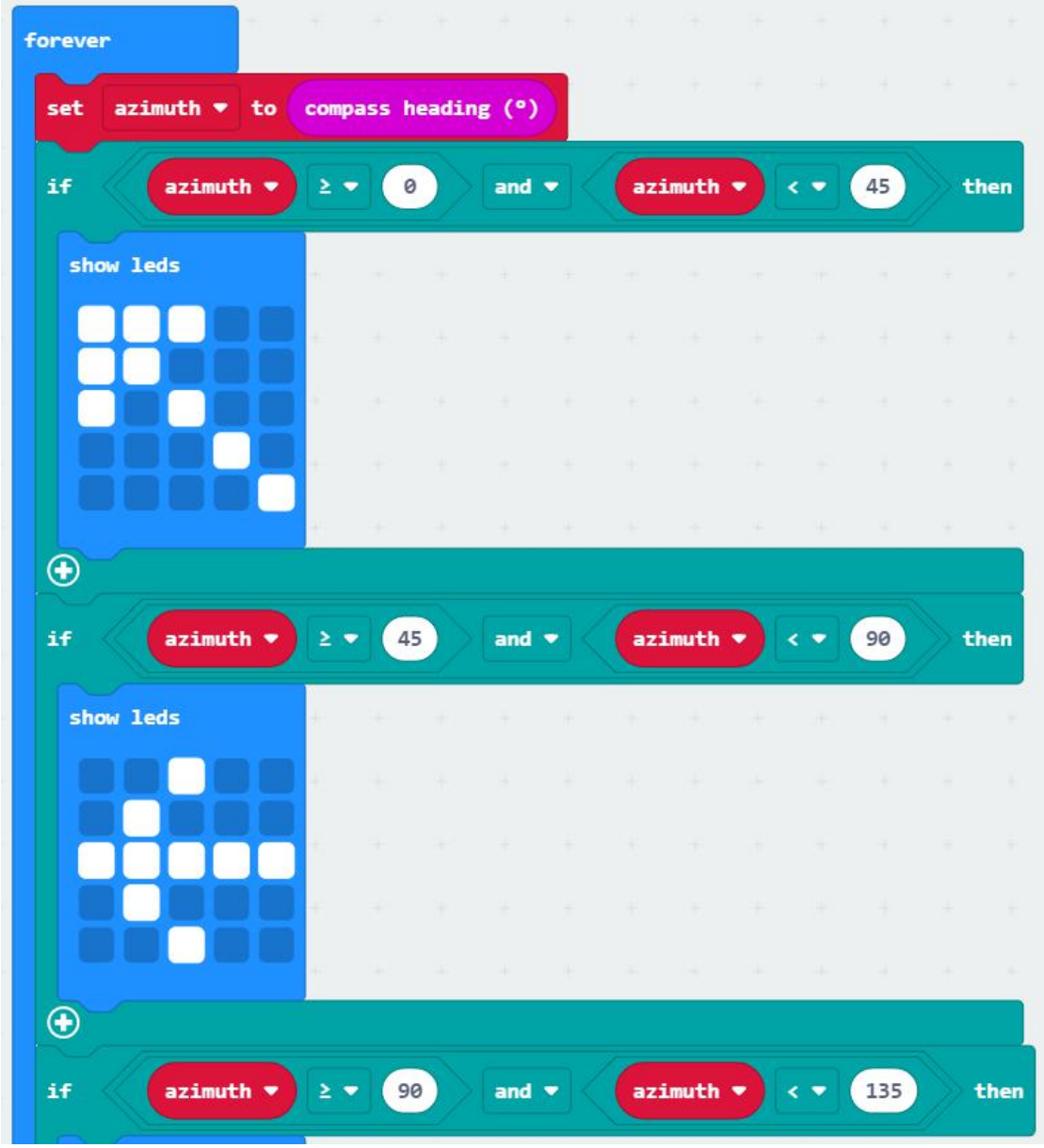
The following is the location of the building blocks required for this programming.

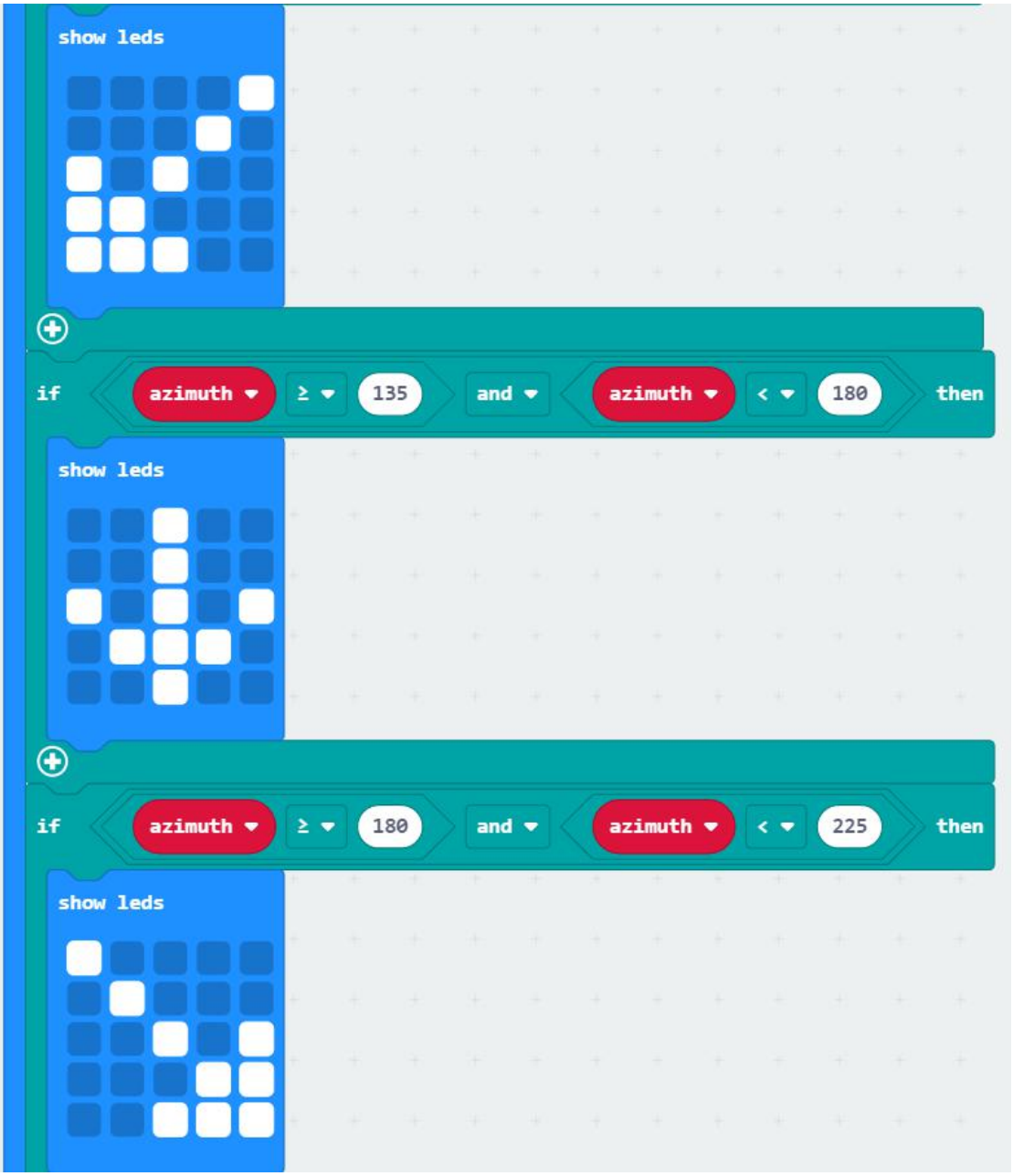


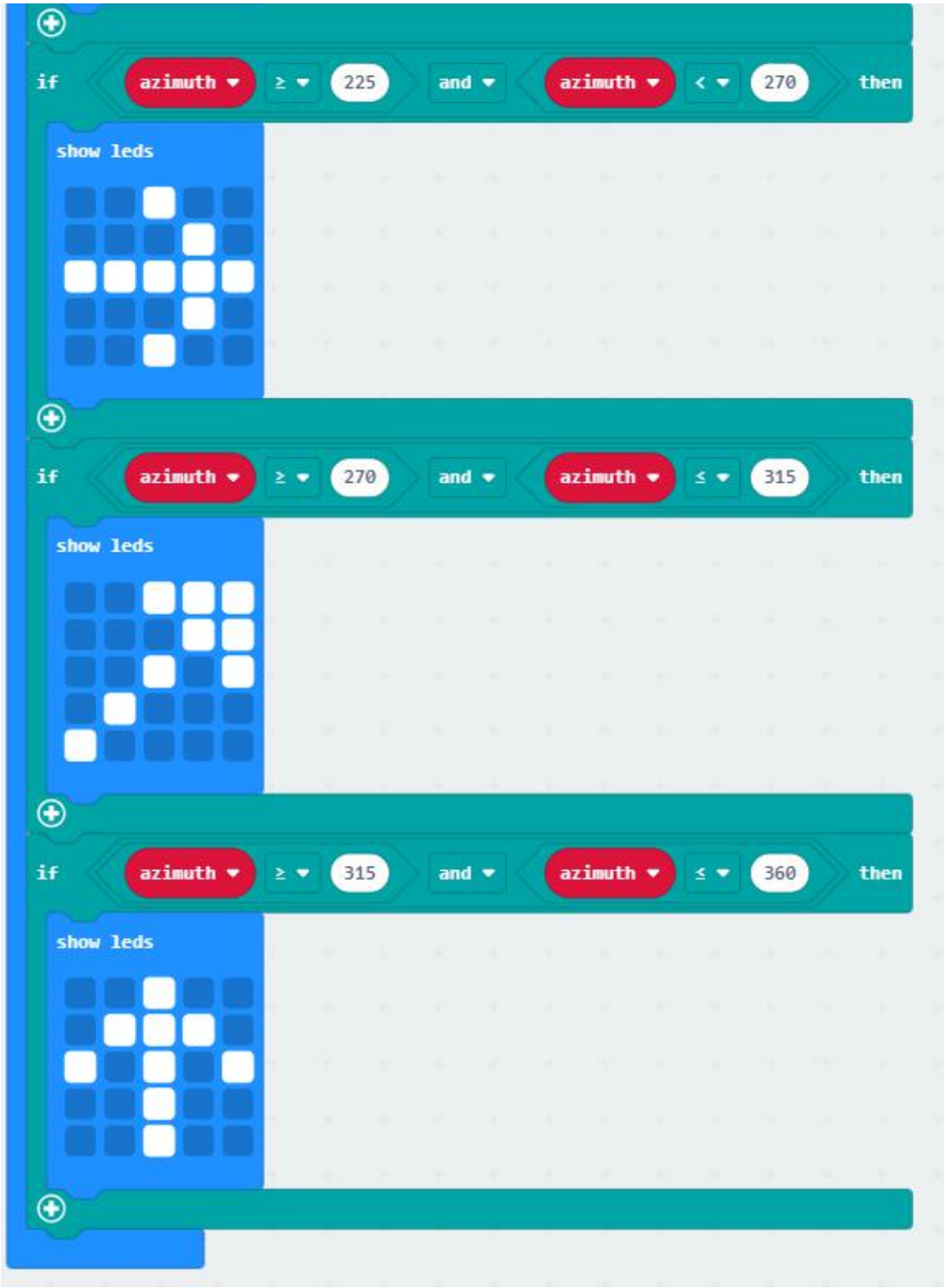


4. Combine block

The summary program is shown below.


forever
set azimuth to compass heading (°)
if azimuth ≥ 0 and azimuth < 45 then
show leds
if azimuth ≥ 45 and azimuth < 90 then
show leds
if azimuth ≥ 90 and azimuth < 135 then


show leds
if azimuth ≥ 135 and azimuth < 180 then
show leds
if azimuth ≥ 180 and azimuth < 225 then
show leds



5. Experimental phenomena

After the program is successfully downloaded,

You can move the micro:bit board in eight different directions to the east, west, south, north, northeast, northwest, southeast, and southwest. No matter which direction the micro:bit swings, the pointer above the dot matrix will point in one direction.