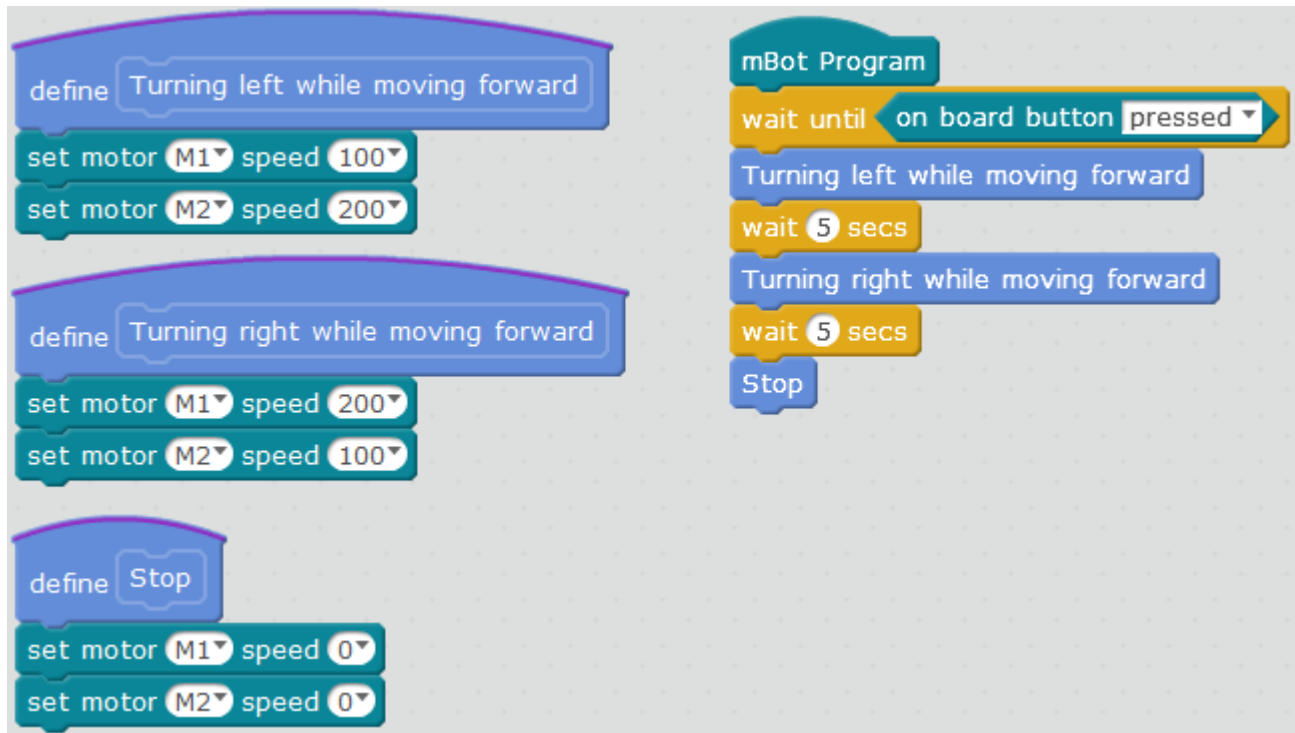# makeblock

# Move along the S-shaped track

**Hardware requirements:** mBot
**Implementation:** Upload the program to Arduino

**Example programs**





In this example the module directive  is defined to let mBot move in a

S-shaped track.
Define the module directive to combine several blocks. The program executes the defined module directive, i. e. calling its defined block behavior. This can make the program simpler and easier to read. See **Knowledge Point 2** for methods.
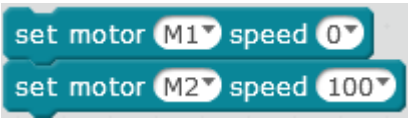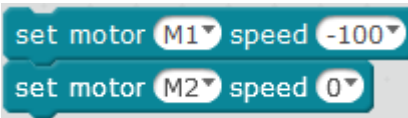
**Knowledge points**

**Point 1 Use "differential speed" to control mBot's turning.**

Use Block  to directly control the direction of mBot in Example 15 Moving along the M-shaped track. Otherwise you can also control the speed of mBot's left and right motors to control its direction:
**When the right wheel speed is more than the left one, mBot turns left; when the left wheel speed is more than the right one, mBot turns right.**
Install mBot correctly as required in the Instructions. Left wheel motor is connected to Motor Port 1 and right wheel motor to Motor Port 2. Watch mBot's turning by

testing the following script (taking mBot's left turning for example, and its right turning is the same).

| Script | Turning |
|---|---|
| set motor (M1) speed (100)<br>set motor (M2) speed (200) | Turning left while moving forward |
| set motor (M1) speed (0)<br>set motor (M2) speed (100) | Turning left on the left wheel |
| set motor (M1) speed (-100)<br>set motor (M2) speed (0) | Turning left on the right wheel |
| set motor (M1) speed (-100)<br>set motor (M2) speed (100) | Turning left in place. The effects is the same with Block turn left ▾ at speed (100) |

**Point 2 How to define the module directive**
Click "Data and blocks" in "Scripts" and click "Make a block " and enter the name of the new module directive in the window poping up, and then clck "Ok". Then define the module directive in the programming area to use the new module directive for programming.

**Extended tasks**

| | |
|---|---|
| Task 1 | Let mBot moves in a round track |
| Task 2 | Modify the speed value of left and right motors of mBot (such as increasing the difference between the two values) and watch the moving status of mBot and record it. |

# Related resources

Download: S-shaped track.sb2
Origin: http://www.mblock.cc/example/move-along-the-s-shaped-track/