

## 16. Case 14: Remote Control with Joystick:bit

### 16.1. Purpose

- Programme to control the TPBot with the Joystick:bit.

### 16.2. Material

- 1 x [TPBot](#)

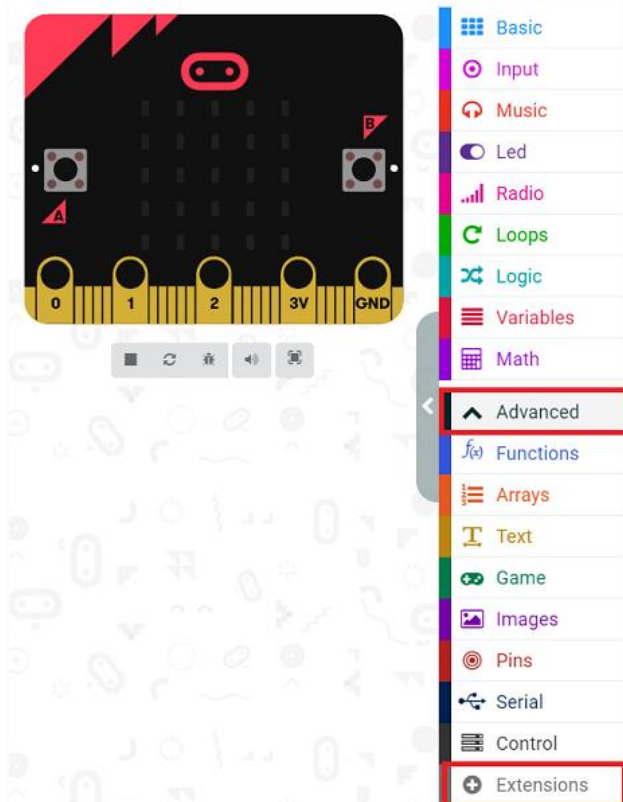


### 16.3. Software

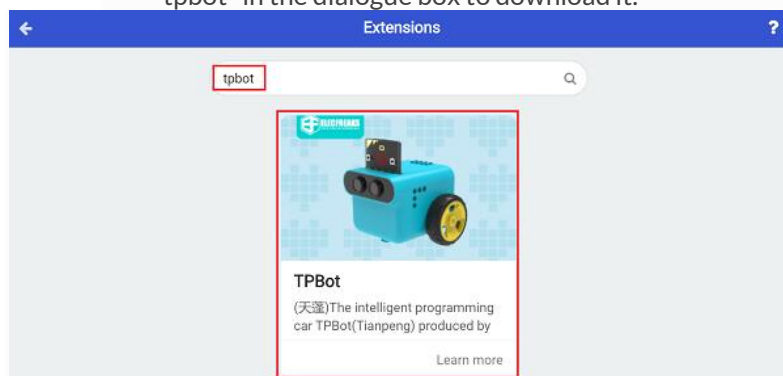
[MicroSoftmakecode](#)

### 16.4. Programming

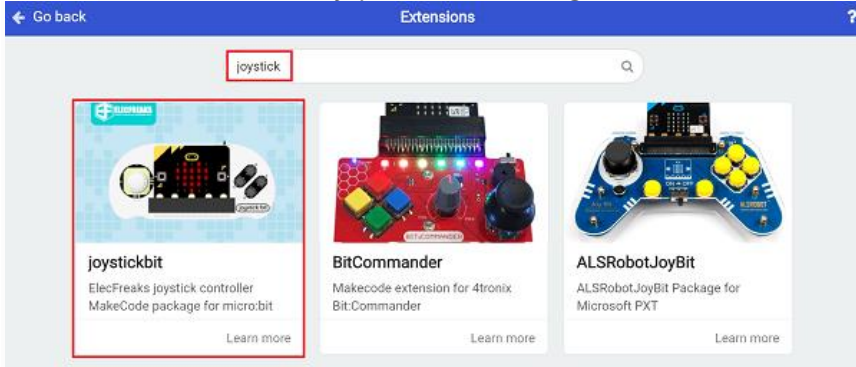
- Click “Advanced” to see more choices in the MakeCode drawer.



- We need to add a package for programming. Click “Extensions” in the bottom of the drawer and search with “tpbot” in the dialogue box to download it.



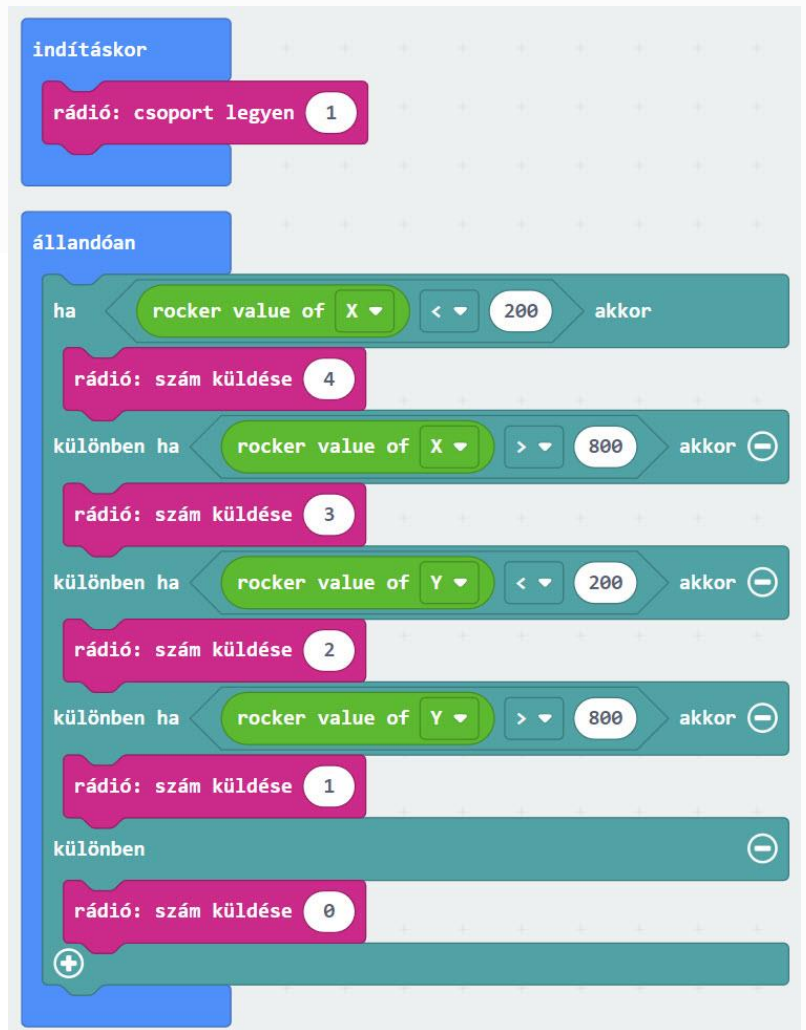
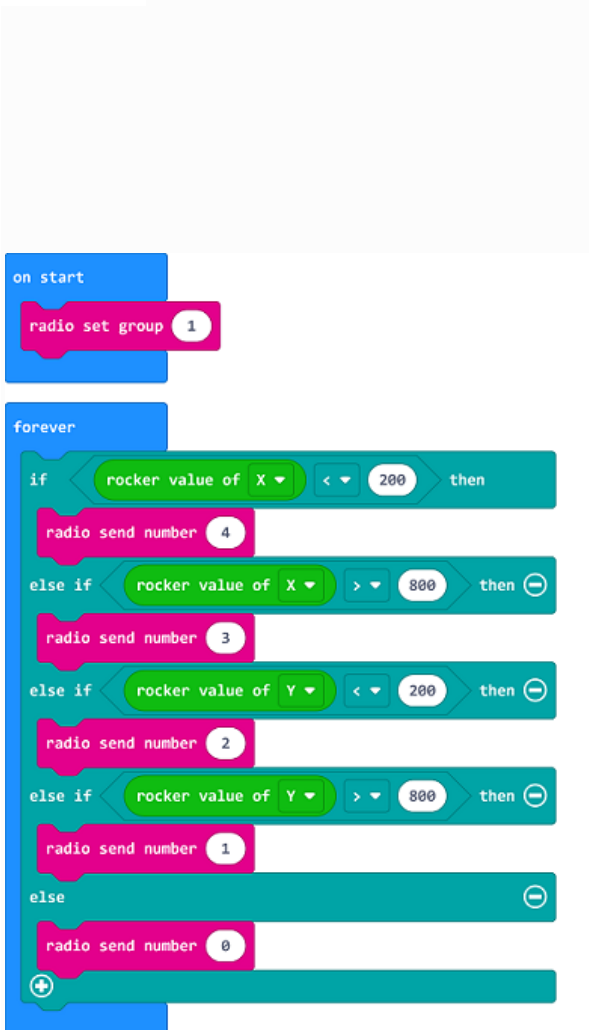
- We need to add a package for programming the Joystick also. Click “Extensions” in the bottom of the drawer and search with “joystick” in the dialogue box to download it.



##Sample

### Remote Control Part

- Set the radio group as 1.
- Judge the value of x&y of the Joystick in the forever brick, if the value of the x is below 200, radio send number 4; if the value of the x is over 800, radio send number 3; if the value of the y is below 200, radio send number 2; if the value of the y over 800, radio send number 1; or radio send number 0.



### Link

- Link: <https://makecode.microbit.org/7rzb5TEfrbu7>

- You may also download it directly below:

--- ### Receiving Part - Set the radio group as 1. - Save the received number as the variable in "on radio received..." block. - Judge if the value is 1, if yes, set the TPBot moving forward at the speed of 100%; if it's 2, set the TPBot reversing at the speed of 50%; if it's 3, set the TPBot turning left at the speed of 50%; if it's 4, set the TPBot turning right at the speed of 50%; If it's 0, set the TPBot to stop.

```

on start
  radio set group 1

on radio received receivedNumber
  set v to receivedNumber

forever
  if v = 1 then
    Go Forward at speed 50 %
  else if v = 2 then
    Go Backward at speed 50 %
  else if v = 3 then
    Go Left at speed 50 %
  else if v = 4 then
    Go Right at speed 50 %
  else if v = 0 then
    Stop the car immediately
  
```

```

indításkor
  rádió: csoport legyen 1

rádiós adat vételekor receivedNumber
  v legyen receivedNumber

állandóan
  ha v = 1 akkor
    Go Forward at speed 50 %
  különben ha v = 2 akkor
    Go Backward at speed 50 %
  különben ha v = 3 akkor
    Go Left at speed 50 %
  különben ha v = 4 akkor
    Go Right at speed 50 %
  különben ha v = 0 akkor
    Stop the car immediately
  
```

**Link**

- Link: [https://makecode.microbit.org/\\_HPVCEX29zTPx](https://makecode.microbit.org/_HPVCEX29zTPx)
- You may also download it directly below:

--- ## Conclusion ---

- The movement of the TPBot is controlled via the Joystick:bit.

**16.5. Exploration**

**16.6. FAQ**

Q: The car does not work with the code in the wiki.

A: It should be the batteries that are lack of power, please try to fix it by adding the value of the speed in the code.