

12. Case 10: Fall-arrest TPBot

12.1. Purpose

- Stick a black gummed paper to the edges of the table, programme to set the TPBot reversing if the black was detected and then it keeps moving forward.

12.2. Material

- 1 x [TPBot](#)

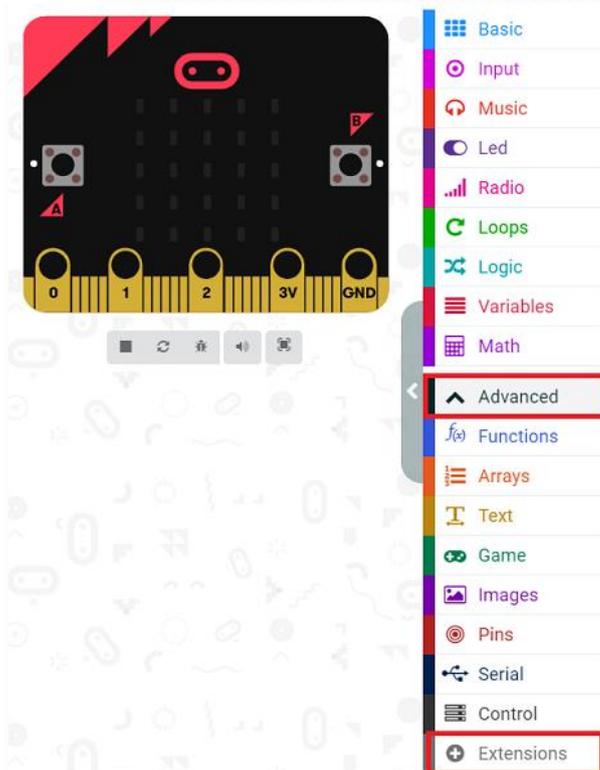


12.3. Software

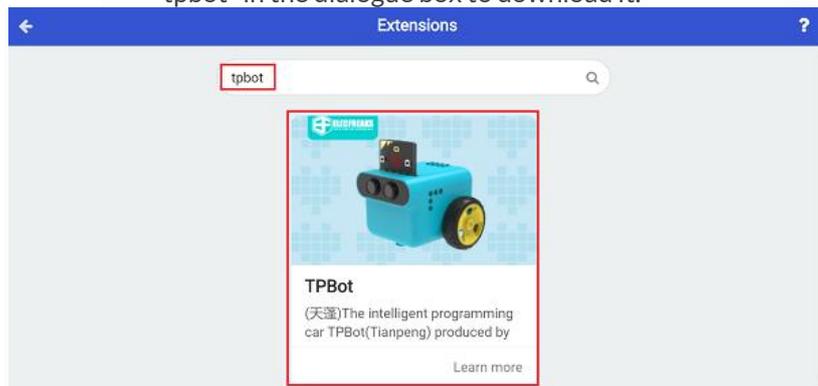
[MicroSoftmakecode](#)

12.4. 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.



##Sample

- Set an icon on the micro:bit display and the headlights in white.
- Judge if the black line was detected in the forever brick, if yes, set the TPBot reversing for one second at the speed of 30% and then turning left for 0.5 second at the same speed; or it moves forward at the speed of 30%.

```
on start
  show icon
  Set headlight color to white

forever
  if not Line sensor state is 00 then
    Go Backward at speed 30% for 1 seconds
    Go Left at speed 30% for 0.5 seconds
  else
    Go Forward at speed 30%
```

```
indításkor
  ikon megjelenítése
  Set headlight color to white

allandóan
  ha nem Line sensor state is 00 akkor
    Go Backward at speed 30% for 1 seconds
    Go Left at speed 30% for 0.5 seconds
  különben
    Go Forward at speed 30%
```

Link

- Link: <https://makecode.microbit.org/dtPhXL3XxTJC>
- You may also download it directly below:

12.5. Conclusion

- Power up to show an icon on the micro:bit display and set the TPBot moving forward with headlights in white. If the black line was detected, it reverses and then turns left to keep moving.

12.6. Exploration

12.7. 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.