

# Case 04: Obstacles-avoidance Cars

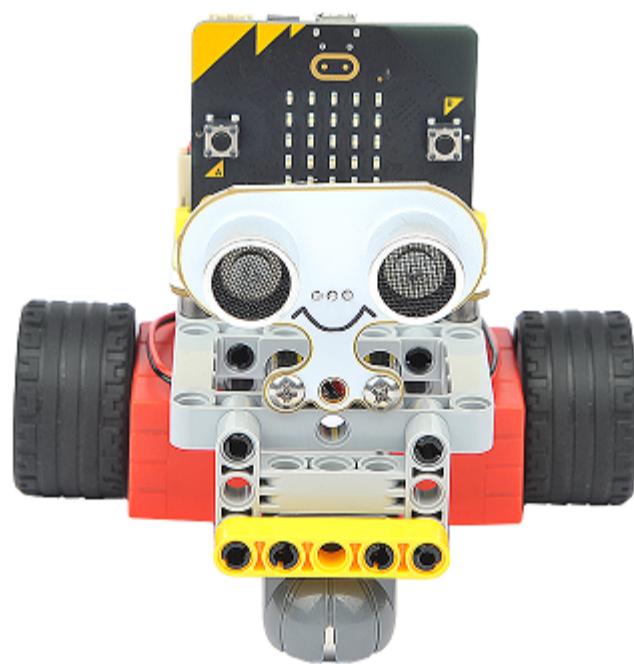
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## 6.1. Purpose

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To make an obstacle-avoidance car.



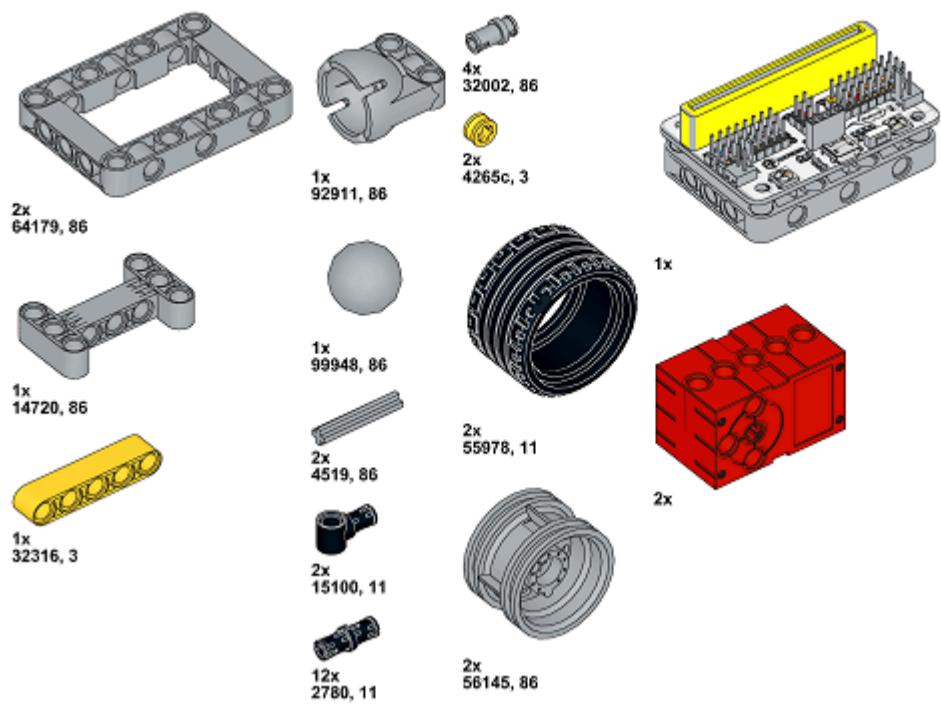
## 6.2. Link

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[micro:bit Wonder Building Kit](#)

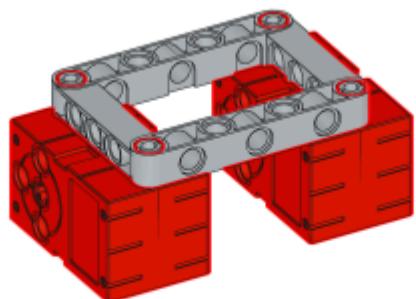
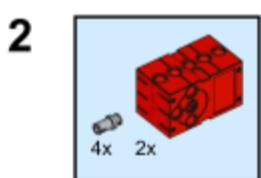
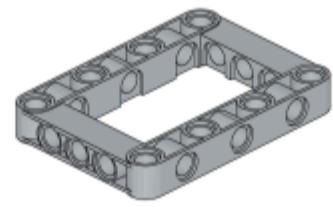
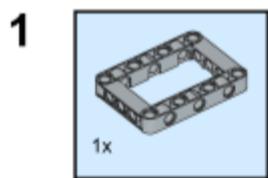
## 6.3. Materials Required

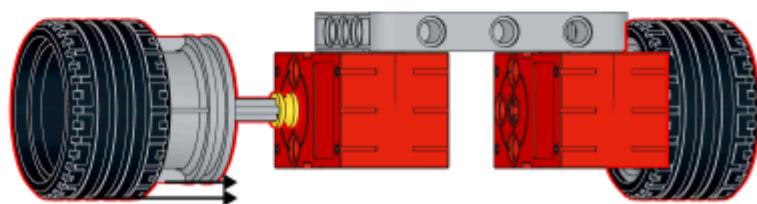
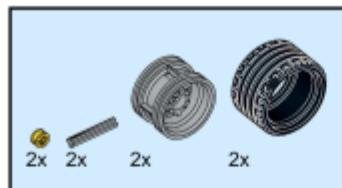
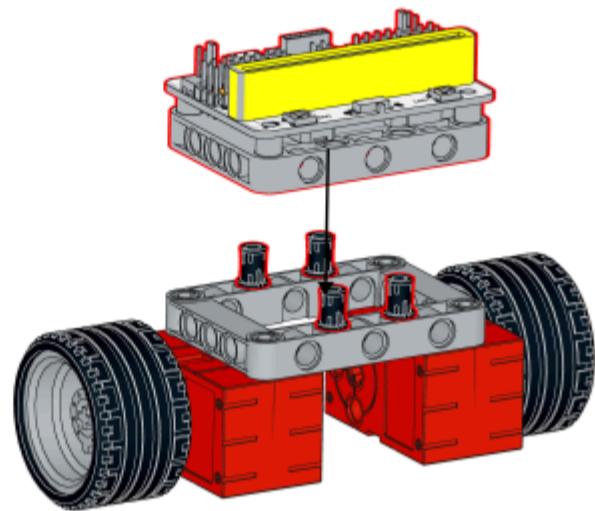
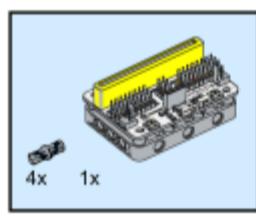
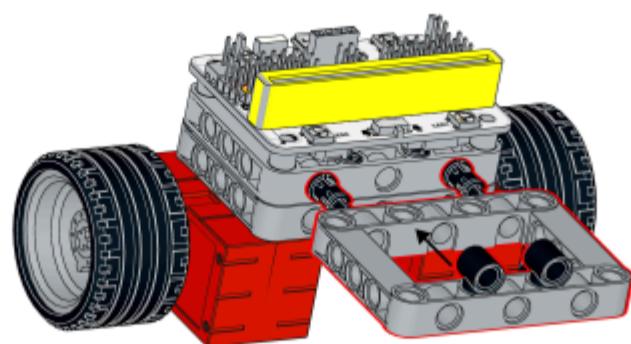
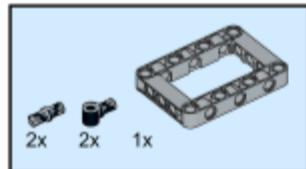
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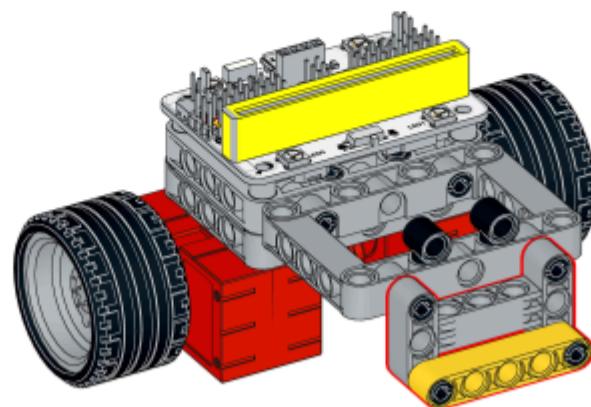
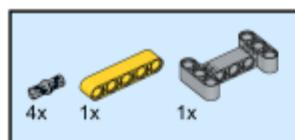
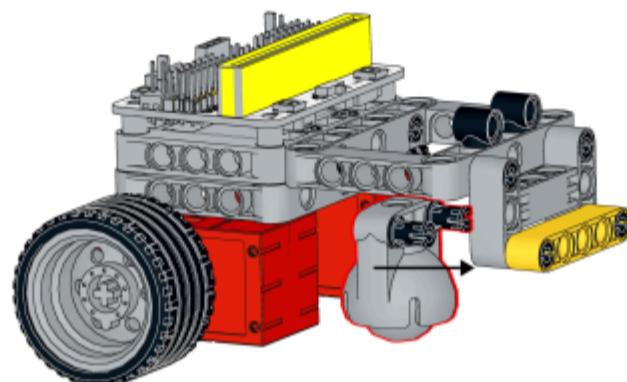
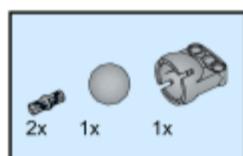
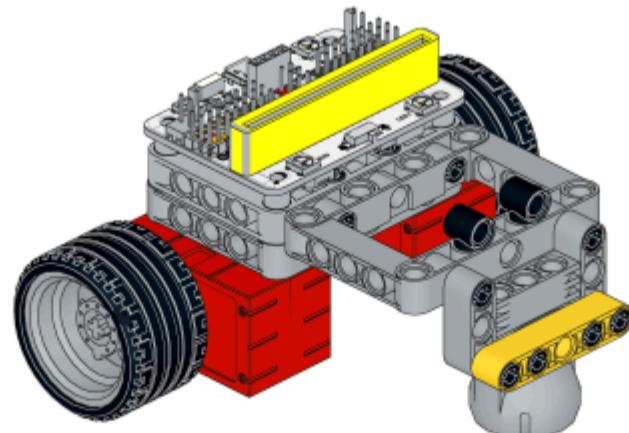


Video link: <https://youtu.be/jYkSCfRpj1Y>

## 6.4. Bricks build-up



**3****4****5**

**6****7****8**

## 6.5. Installation Methods of Hardwares

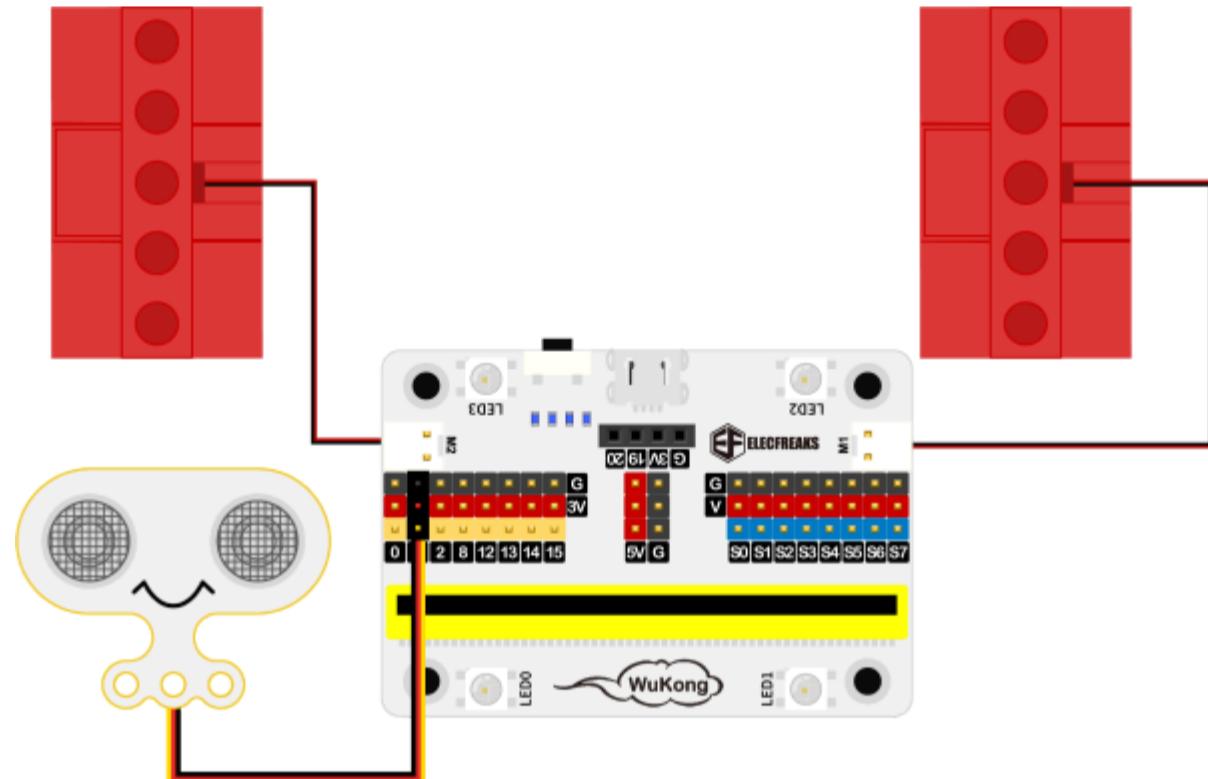
Install the sonar:bit with the bricks.

## Sensor Connection Diagram



## 6.6. Hardware Connection

Connect two [motors](#) to M1, M2, and the [sonar:bit](#) to P1 port on [Wukong breakout board](#).



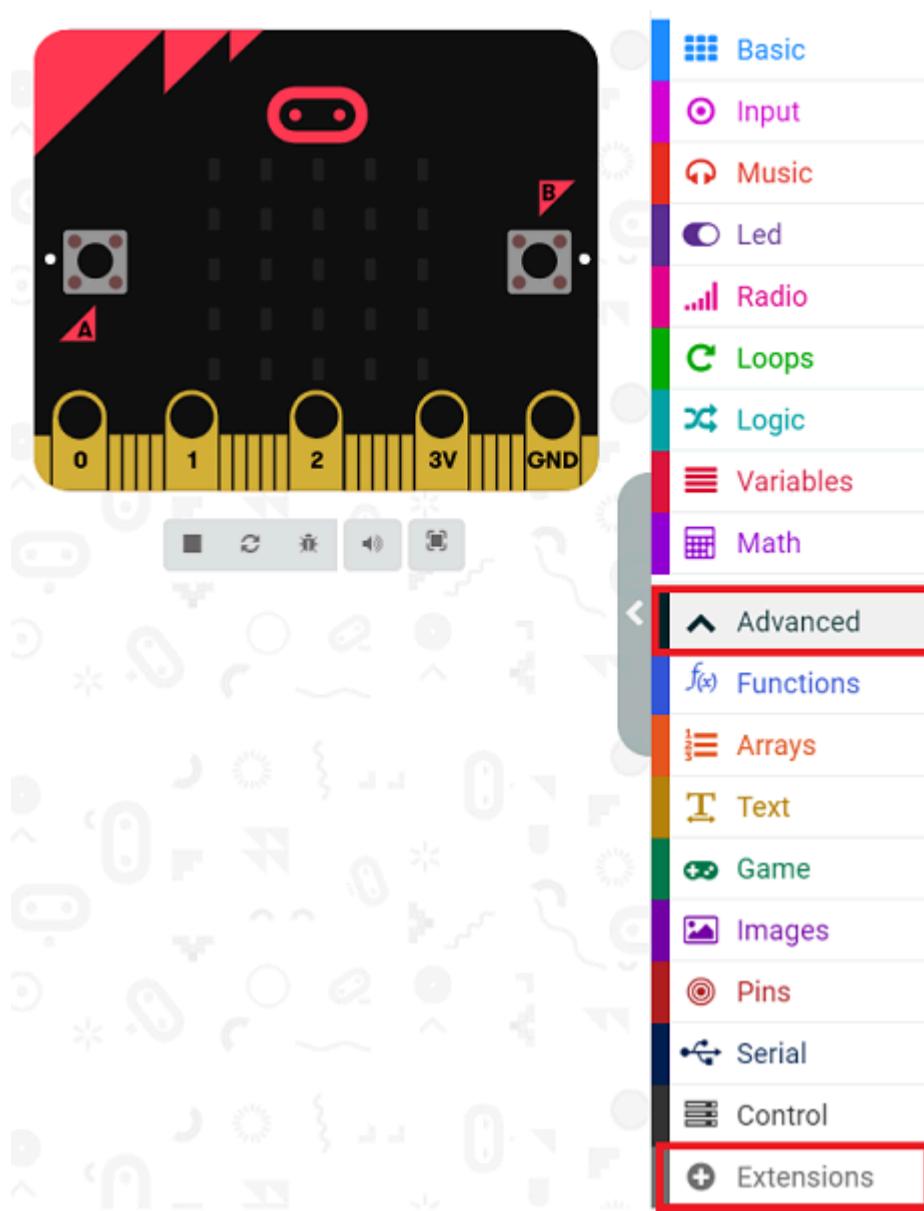
## 6.7. Software Platform

[MakeCode](#)

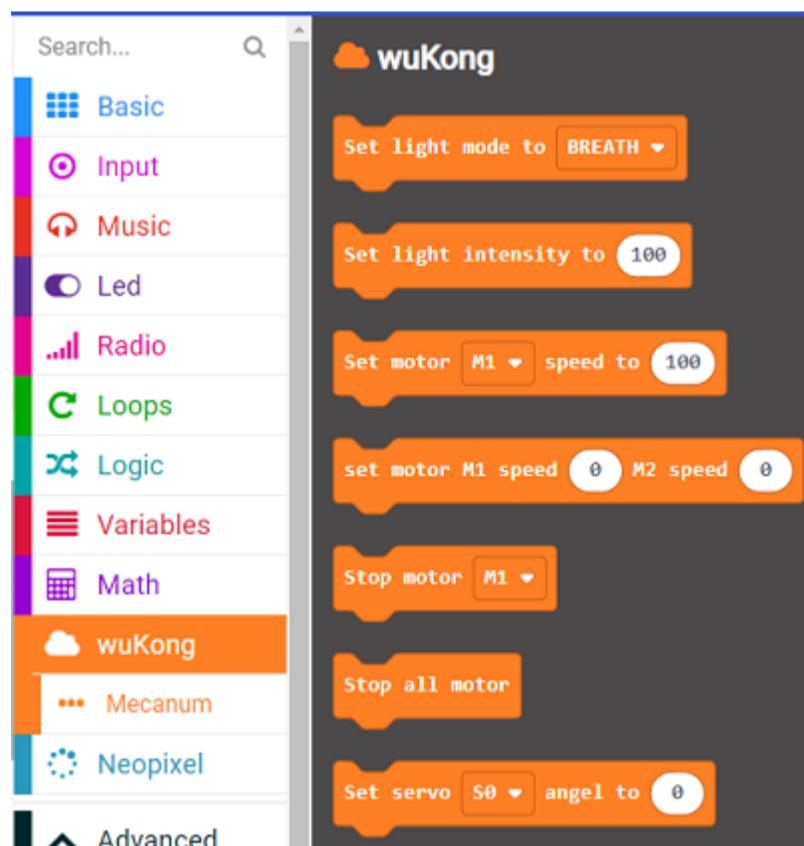
## 6.8. Coding

Add extensions

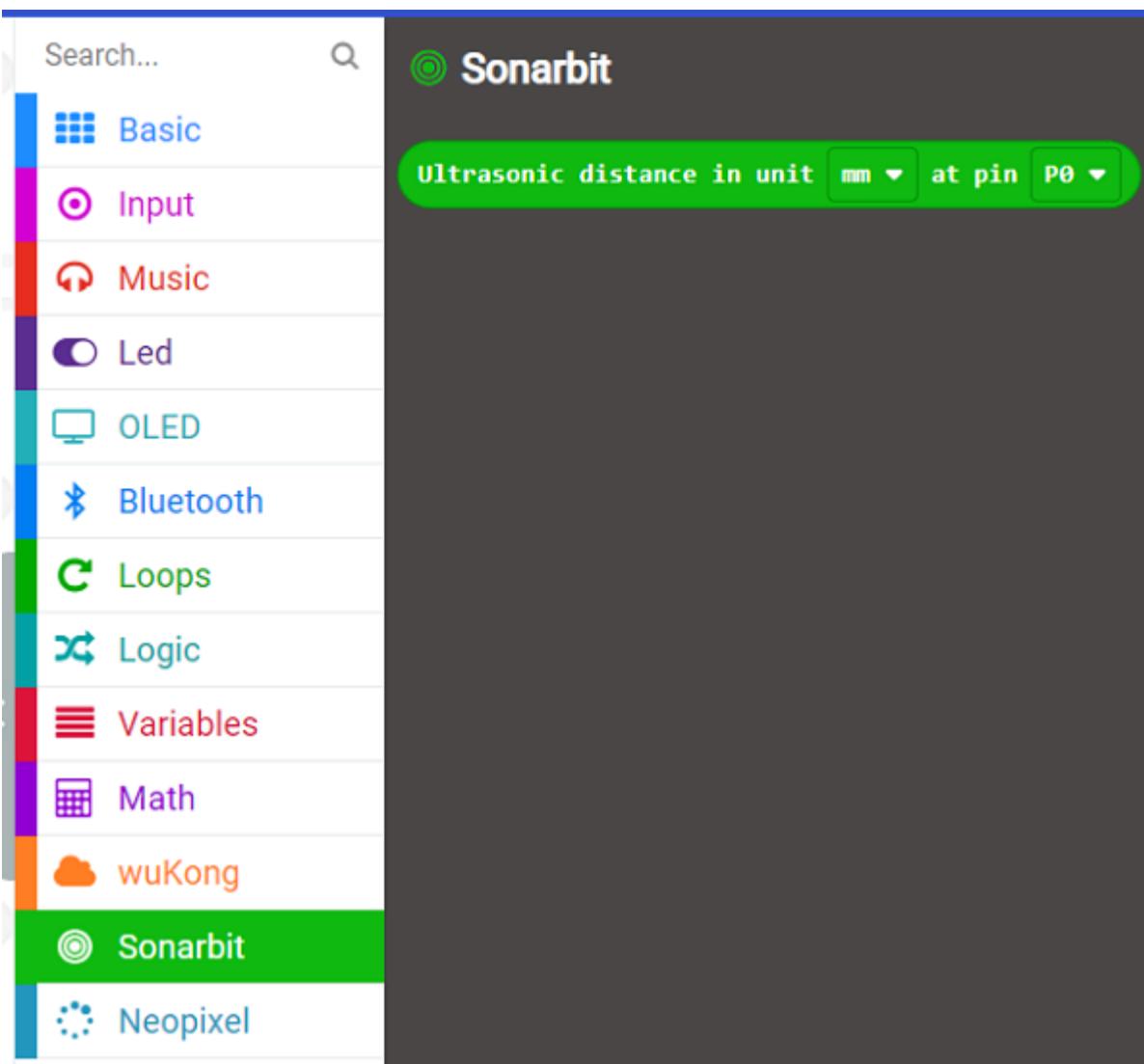
Click “Advanced” in the MakeCode to see more choices.



Search with Wukong in the dialogue box to download it.



Search with <https://github.com/elecbreaks/pxt-sonarbit> in the dialogue box to add the sonar:bit extension.



## Program

```

on start
  set motor M1 speed [-100] M2 speed [-100]

forever
  set sonor v to Ultrasonic distance in unit cm at pin P1
  if <sonor v < 20 and >sonor v > 1> then
    set motor M1 speed [-50] M2 speed [100]
    pause (ms) pick random [0] to [10]
  else
    set motor M1 speed [-100] M2 speed [-100]

```

Link:[https://makecode.microbit.org/\\_7K4bgpCKv2WJ](https://makecode.microbit.org/_7K4bgpCKv2WJ)

## 6.9. Result

While on start, the car moves forward at the full speed and it turns right if it detects any obstacles within the scope of 20cm, and then it keeps moving forward.