

# microbit\_ K210 autonomous classification learning

## 1.K210 and microbit communication

### 1.1 Experimental premises

This tutorial uses microbit V2.0, and K210 requires running the program in \* \* K210-AI (microbit) \*  
\* to start the experiment

Microbit \* 1

Eyu clip \* 3

Several DuPont Lines

K210 perspective module \* 1 (requires SD card (with AI model inside) and camera)

USB to TTL module \* 1

Import k210AI library: <https://github.com/YahboomTechnology/K210-Module>

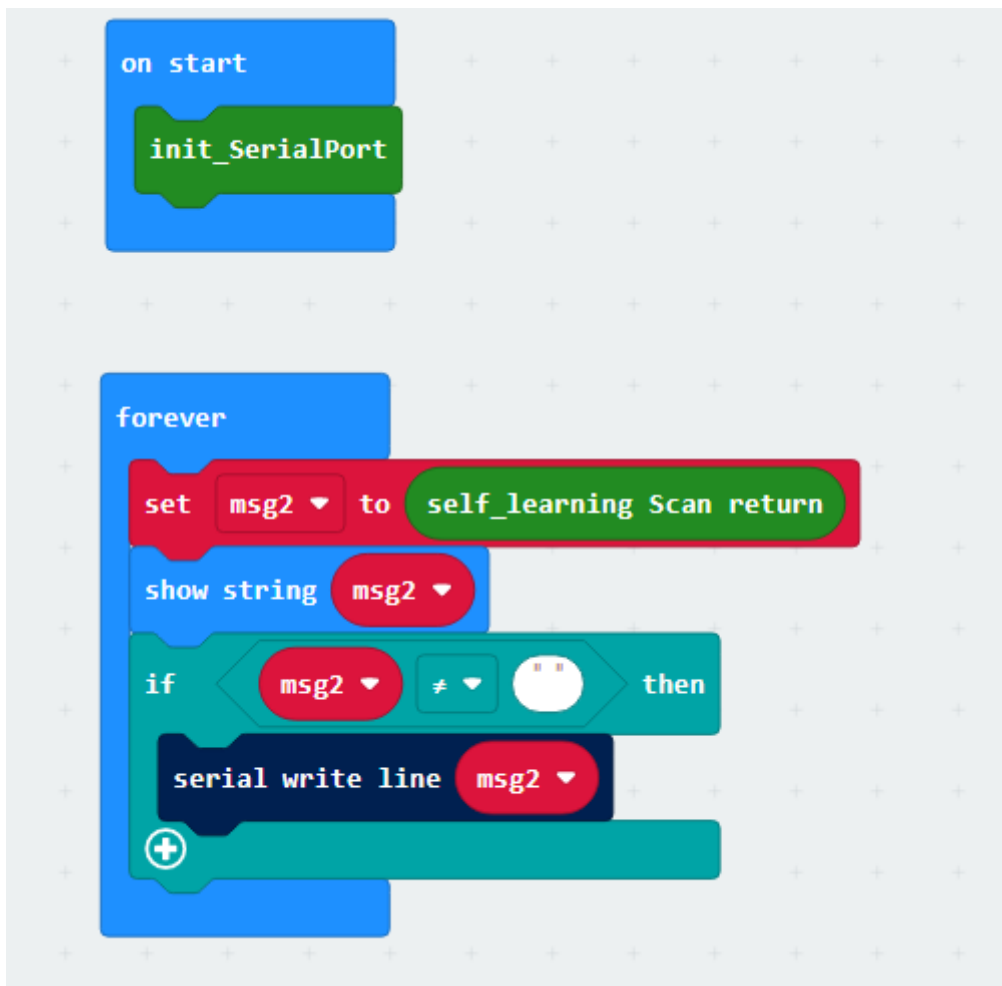
### 1.2 Experimental wiring

microbit	USB to TTL module
P1	RXD
GND	GND

microbit	k210
P2	TXD
GND	GND
Wiring as shown in the diagram:	



### 1.3 Main code analysis



From the code, simply configure the serial port and call the relevant serial port and K210 building blocks for data acquisition

- msg:Identify the content of barcodes

## 1.4 experimental phenomena

1. After connecting the cable, the K210 perspective module can run offline. **Press key1 of K210 to input object information, take 15 pictures, 5 pictures for each object, and store 3 objects**

Please check 【6.2 K210 as coprocessor】 -- 【ReadMe】

2. Set the serial port assistant to the interface shown in the figure

COM Configs

Channel: COM1 #01

Baudrate: 115200

Paritybits: NONE

Databits: 8

Stopbits: 1

Flowctrl: NONE

Close

Recv Options

☒ ASCII ☐ HEX

☒ Log display mode

☒ Auto linefeed

☐ Hide received data

☐ Recv save to file...

[AutoScroll](#) [Clear](#)

Send Options

☒ ASCII ☐ HEX

☒ Enable escape chars

☒ AT CMD auto CRLF

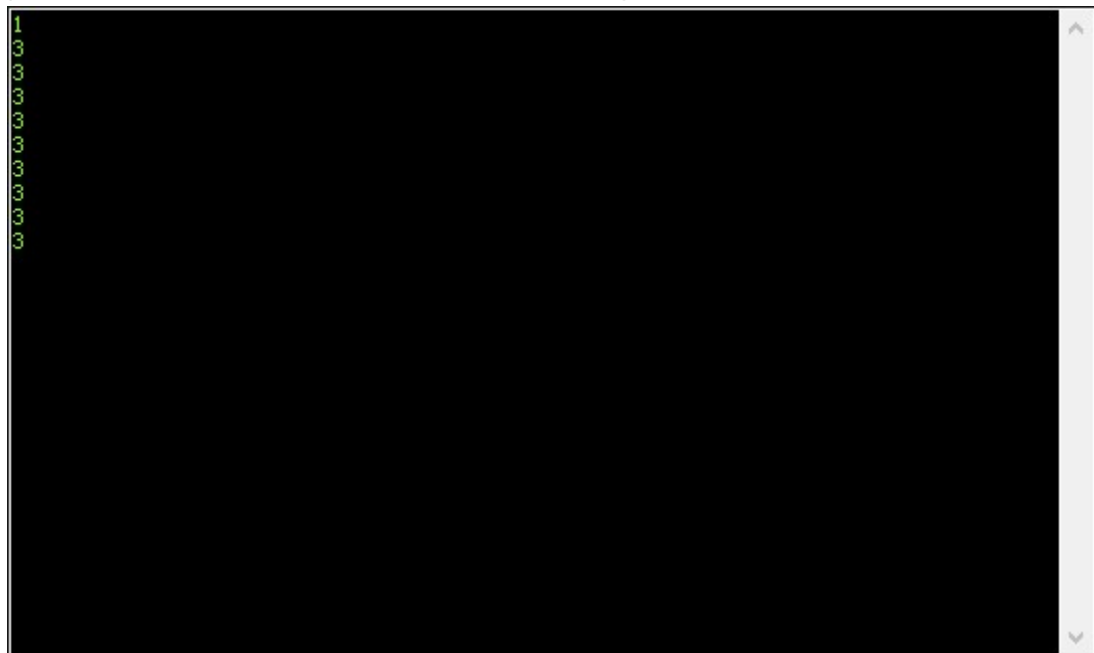
☐ Auto append bytes

☐ Send from file ...

☐ Period: 1000 ms

[Shortcut](#) [History](#)

3. Download the hex program of this tutorial into microbit
4. After recognition, you can see that the serial assistant prints something and the microbit screen also scrolls to display the received information. The experimental result below is a phenomenon of autonomous classification learning



This experiment shows the results of autonomous classification learning. These IDs are the ID numbers of classified objects

## 1.5 Microbit calls the building blocks to parse the results of K210, and the roles of each block

Website of K210 library: <https://github.com/YahboomTechnology/K210-Module>

