

Jetson Nano B01 and External Device Serial Communication Tutorial

1.Preparation work

This section tests the tutorial of Jetson Nano B01 serial port sending and receiving on its own. From the figure below, it can be seen that the TXD and RXD pins of the Jetson Nano B01 serial port correspond to physical pins 8 and 10, respectively.

BCM code	Physical pins	Function		Physical pins	BCM code
	3V3	1	2	5V	
2	SDA	3	4	5V	
3	SCL	5	6	GND	
4	D4	7	8	D14(TXD)	14
	GND	9	10	D15(RXD)	15
17	D17	11	12	D18	18
27	D27	13	14	GND	
22	D22	15	16	D23	23
	3V3	17	18	D24	24
10	D10	19	20	GND	
9	D9	21	22	D25	25
11	D11	23	24	D8	8
	GND	25	26	D7	7
0	DO(ID_SD)	27	28	D1(ID_SC)	1
5	D5	29	30	GND	
6	D6	31	32	D12	12
13	D13	33	34	GND	
19	D19	35	36	D16	16
26	D26	37	38	D20	20
	GND	39	40	D21	21

Wiring:

Jetson Nano B01 Pin8 (TXD) → Jetson Nano B01 Pin10 (RXD)



Enable the serial port permission. Please note that this permission will also be disabled after shutdown, and you need to restart it next time

```
sudo chmod 777 /dev/ttyTHS1
```

2.Use routines to test the functionality of the serial port

Download a serial communication case from Github, the source code and explanation can be viewed through this Github connection

```
git clone <https://github.com/JetsonHacksNano/UARTDemo>
```

Enter folder

```
cd UARTDemo
```

If you do not intend to use the serial console on UART, you should disable the serial console (it may not be a personal choice):

```
systemctl stop nvgetty  
systemctl disable nvgetty  
udevadm trigger
```

Install the serial module

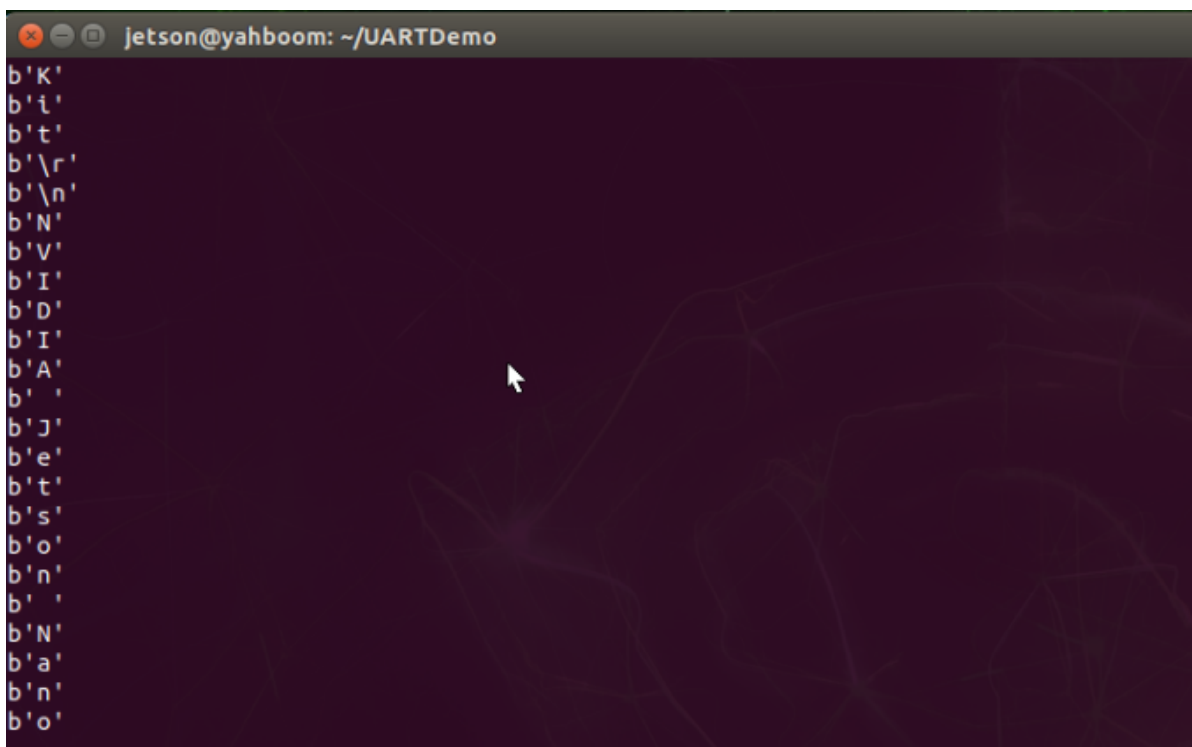
```
sudo apt-get install python3-serial
```

Terminal input running program:

```
sudo python3 uart_example.py
```

```
nano@nano-desktop:~/UARTDemo$ python3 uart_example.py  
UART Demonstration Program  
NVIDIA Jetson Nano Developer Kit  
█
```

After running, you can see the characters in the "NVIDIA Jetson Nano Developer Kit" loop sent by Jetson Nano B01 and displayed on the terminal.



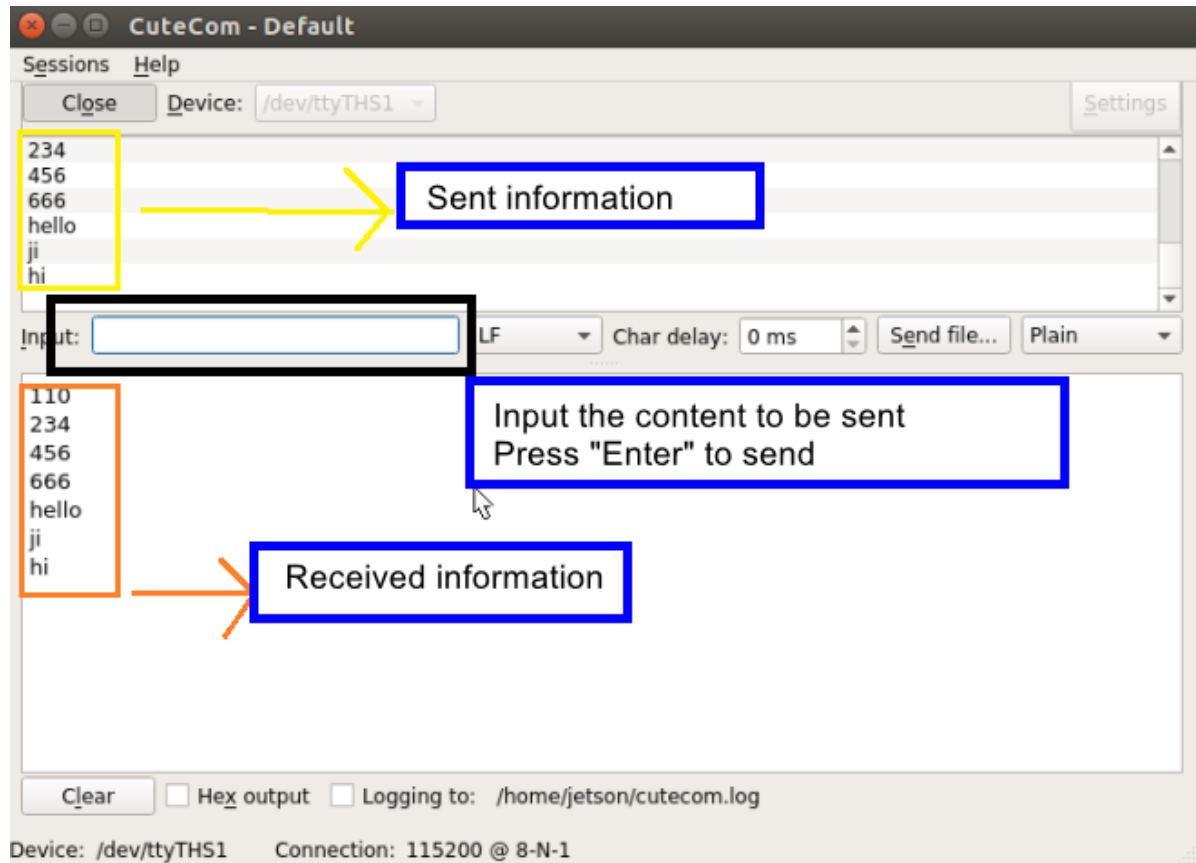
The screenshot shows a terminal window titled "jetson@yahboom: ~/UARTDemo". The terminal displays a continuous stream of characters received from a serial device, shown as byte sequences (b''). The characters are: b'K', b'i', b't', b'\r', b'\n', b'N', b'V', b'I', b'D', b'I', b'A', b' ', b'J', b'e', b't', b's', b'o', b'n', b' ', b'N', b'a', b'n', b'o'.

3.Using Linux's serial port assistant for testing

1. Run the following command

```
sudo apt install cutecom  
sudo cutecom
```

You can see that the cutecom is open. Generally, there is no need to set it up. Simply click on 'open' to use it, then input text through 'Input' and press 'Enter' to send the content. The effect is as shown in the picture:



4.note

If using a USB to TTL module for communication between a computer and a nano, please note the following points

1. DuPont cable should not be too long, as it will cause garbled code
2. The situation of only receiving but not sending is caused by insufficient voltage. Connect the 5V port of the USB to TTL module to the 5V port of the Jetson Nano B01
3. If the line is reasonable but garbled, check whether the baud rate, parity, and stop bit are consistent