

树莓派第二十二课 1602液晶屏python版本

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pi@raspberrypi: ~/树莓派基础套件程序资料/第二十二课 1602液晶屏python版本
pi@raspberrypi: ~/树莓派基础套件程序资料/第二十二课 1602液晶屏python版本 $ ls
b1602.py c1602.py
pi@raspberrypi: ~/树莓派基础套件程序资料/第二十二课 1602液晶屏python版本 $ nano b1602.py
pi@raspberrypi: ~/树莓派基础套件程序资料/第二十二课 1602液晶屏python版本 $ nano c1602.py
pi@raspberrypi: ~/树莓派基础套件程序资料/第二十二课 1602液晶屏python版本 $ nano guide22
pi@raspberrypi: ~/树莓派基础套件程序资料/第二十二课 1602液晶屏python版本 $ nano guide22
pi@raspberrypi: ~/树莓派基础套件程序资料/第二十二课 1602液晶屏python版本 $ nano c1602.py
pi@raspberrypi: ~/树莓派基础套件程序资料/第二十二课 1602液晶屏python版本 $ nano guide22
pi@raspberrypi: ~/树莓派基础套件程序资料/第二十二课 1602液晶屏python版本 $ gpio readall
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| BCM | wPi |   Name   | Mode | V | Physical | V | Mode | Name   | wPi | BCM |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
|      |      | 3.3v     |      |   | 1 || 2 |      | 5v     |      |      | |
|  2  |  8  | SDA.1    | ALT0 | 1 | 3 || 4 |      | 5V     |      |      |
|  3  |  9  | SCL.1    | ALT0 | 1 | 5 || 6 |      | 0v     |      |      |
|  4  |  7  | GPIO. 7  | OUT  | 0 | 7 || 8 |  1  | ALT0 | TxD    | 15  | 14  |
|      |      | 0v       |      |   | 9 || 10 |  1  | ALT0 | RxD    | 16  | 15  |
| 17  |  0  | GPIO. 0  | OUT  | 0 | 11 || 12 |  0  | OUT  | GPIO. 1 | 1  | 18  |
| 27  |  2  | GPIO. 2  | OUT  | 0 | 13 || 14 |      | 0v     |      |      |
| 22  |  3  | GPIO. 3  | OUT  | 0 | 15 || 16 |  1  | OUT  | GPIO. 4 | 4  | 23  |
|      |      | 3.3v     |      |   | 17 || 18 |  1  | OUT  | GPIO. 5 | 5  | 24  |
| 10  | 12  | MOSI     | OUT  | 0 | 19 || 20 |      | 0v     |      |      |
|  9  | 13  | MISO     | OUT  | 0 | 21 || 22 |  0  | OUT  | GPIO. 6 | 6  | 25  |
| 11  | 14  | SCLK     | OUT  | 0 | 23 || 24 |  1  | ALT0 | CE0    | 10  |  8  |
|      |      | 0v       |      |   | 25 || 26 |  1  | ALT0 | CE1    | 11  |  7  |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 28  | 17  | GPIO.17  | IN   | 0 | 51 || 52 |  0  | IN   | GPIO.18 | 18  | 29  |
| 30  | 19  | GPIO.19  | IN   | 0 | 53 || 54 |  0  | IN   | GPIO.20 | 20  | 31  |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| BCM | wPi |   Name   | Mode | V | Physical | V | Mode | Name   | wPi | BCM |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
pi@raspberrypi: ~/树莓派基础套件程序资料/第二十二课 1602液晶屏python版本 $ sudo python b1602.py
b1602.py:68: RuntimeWarning: This channel is already in use, continuing anyway. Use GPIO.setwarnings(False) to d
isable warnings.
  self.GPIO.setup(self.pin_e, GPIO.OUT)
b1602.py:69: RuntimeWarning: This channel is already in use, continuing anyway. Use GPIO.setwarnings(False) to d
isable warnings.
  self.GPIO.setup(self.pin_rs, GPIO.OUT)
b1602.py:72: RuntimeWarning: This channel is already in use, continuing anyway. Use GPIO.setwarnings(False) to d
isable warnings.
  self.GPIO.setup(pin, GPIO.OUT)

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图一

```
pi@raspberrypi: ~/... python 1602 交叉编译式 python 脚本
GNU nano 2.2.6 File: c1602.py

LCD_CURSORMOVE = 0x00

# flags for display/cursor shift
LCD_DISPLAYMOVE = 0x08
LCD_CURSORMOVE = 0x00
LCD_MOVERIGHT = 0x04
LCD_MOVELEFT = 0x00

# flags for function set
LCD_8BITMODE = 0x10
LCD_4BITMODE = 0x00
LCD_2LINE = 0x08
LCD_1LINE = 0x00
LCD_5x10DOTS = 0x04
LCD_5x8DOTS = 0x00

def __init__(self, pin_rs=14, pin_e=15, pins_db=[17, 18, 27, 22], GPIO = None):
    # Emulate the old behavior of using RPi.GPIO if we haven't been given
    # an explicit GPIO interface to use
    if not GPIO:
        import RPi.GPIO as GPIO
        self.GPIO = GPIO
        self.pin_rs = pin_rs
        self.pin_e = pin_e
        self.pins_db = pins_db

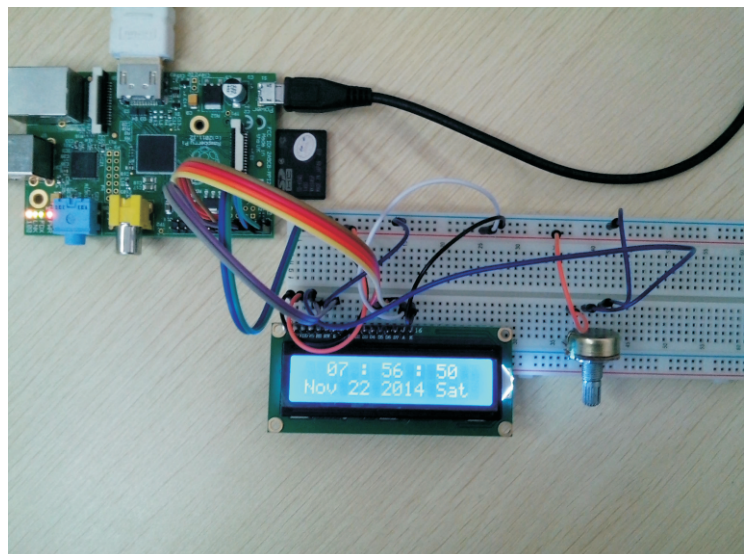
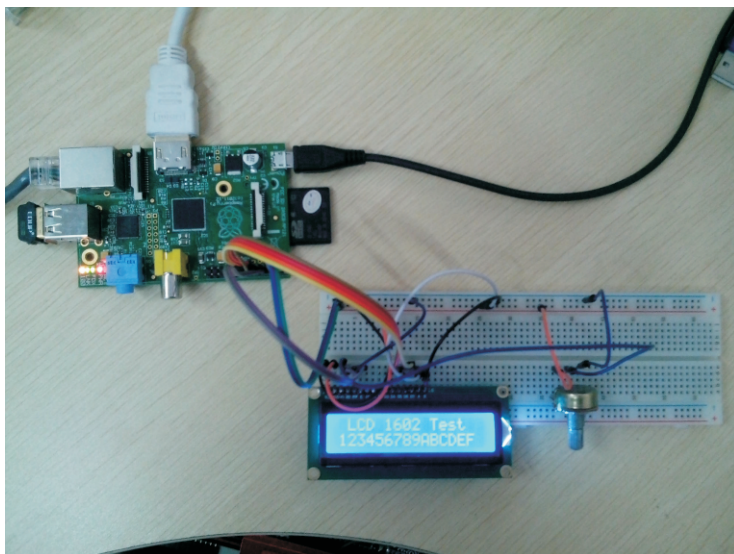
        self.GPIO.setmode(GPIO.BCM)
        self.GPIO.setup(self.pin_e, GPIO.OUT)
        self.GPIO.setup(self.pin_rs, GPIO.OUT)

        for pin in self.pins_db:
            self.GPIO.setup(pin, GPIO.OUT)

        self.write4bits(0x33) # initialization
        self.write4bits(0x32) # initialization
        self.write4bits(0x28) # 2 line 5x7 matrix
        self.write4bits(0x0C) # turn cursor off 0x0E to enable cursor
        self.write4bits(0x06) # shift cursor right

[ Read 264 lines ]
^G Get Help ^O WriteOut ^R Read File ^Y Prev Page ^K Cut Text ^C Cur Pos
^X Exit ^J Justify ^W Where Is ^V Next Page ^U UnCut Text ^T To Spell
```

图二



图三