

BananaPro/Pi:GPIO library

From BananaPro/Pi

Contents

- 1 RPi.GPIO
 - 1.1 Description
 - 1.2 Download
 - 1.3 Installation
- 2 WiringPi
 - 2.1 Description
 - 2.2 How to use WiringPi on the Banana Pro/Pi
 - 2.3 Check the Pin definitions in WiringPi
 - 2.4 The simplest program: Blink
 - 2.5 More Tests
- 3 BCM2835
 - 3.1 Description
 - 3.2 Download
 - 3.3 Installation
- 4 WebioPi
- 5 Pgpio

RPi.GPIO

Description

General Purpose Input Output (General Input/Output) as the GPIO, or bus expander, use I2C, SMBus or industrial standard SPI interface simplifies the I/O port extension. When the micro controller or chipset do not have enough I/O ports, or when the system needs to use the remote serial communication or control, GPIO products can provide additional control and monitoring functions. The modified RPi.GPIO library for Banana Pro/Pi can be download from LeMaker github.

Download

For Banana Pro:

```
git clone https://github.com/LeMaker/RPi.GPIO_BP -b bananapro
```

For Banana Pi:

Installation

You need have the python-dev package:

```
sudo apt-get update
sudo apt-get install python-dev
```

Compile and install:

```
cd RPi.GPIO_BP
python setup.py install
sudo python setup.py install
```

Attention: you need install twice setup.py like above, first not using sudo. After that, you can use the RPi.GPIO python script.

WiringPi

Description

Wiring Pi is a GPIO library written by Drogon. It is originally for the Raspberry Pi, but LeMaker has modified and adapted it to make it work on the Banana Pro/Pi, we call it WiringBP. More example details can be found at <http://wiringpi.com/>. All these examples can be used directly on the Banana Pro/Pi.

How to use WiringPi on the Banana Pro/Pi

Download the WiringBP on your Banana Pro/Pi.
For Banana Pro:

```
git clone https://github.com/LeMaker/WiringBP -b bananapro
```

For Banana Pi:

```
git clone https://github.com/LeMaker/WiringBP -b bananapi
```

After download, you need direct into the WiringBP directory and run:

```
cd WiringBP/
sudo chmod +x ./build
```

And then install the WiringBP:

```
sudo ./build
```

Please use the *gpio* command in the command line to see the pin definitions:

```
gpio readall
```

You will then see this information:

```
pi@lemaker:~$ gpio readall
```

--Rev2--						
wiringPi	GPIO	Phys	Name	Mode	Value	
0	17	11	GPIO 0	OUT	High	
1	18	12	GPIO 1	ALT0	Low	
2	27	13	GPIO 2	ALT4	Low	
3	22	15	GPIO 3	ALT4	Low	
4	23	16	GPIO 4	OUT	High	
5	24	18	GPIO 5	OUT	Low	
6	25	22	GPIO 6	ALT4	Low	
7	4	7	GPIO 7	IN	Low	
8	2	3	SDA	ALT5	Low	
9	3	5	SCL	ALT5	Low	
10	8	24	CE0	IN	Low	
11	7	26	CE1	IN	Low	
12	10	19	MOSI	IN	Low	
13	9	21	MISO	IN	Low	
14	11	23	SCLK	IN	Low	
15	14	8	TxD	ALT0	Low	
16	15	10	RxD	ALT0	Low	
17	28	3	GPIO 8	IN	Low	
18	29	4	GPIO 9	IN	Low	
19	30	5	GPIO10	OUT	High	
20	31	6	GPIO11	IN	Low	

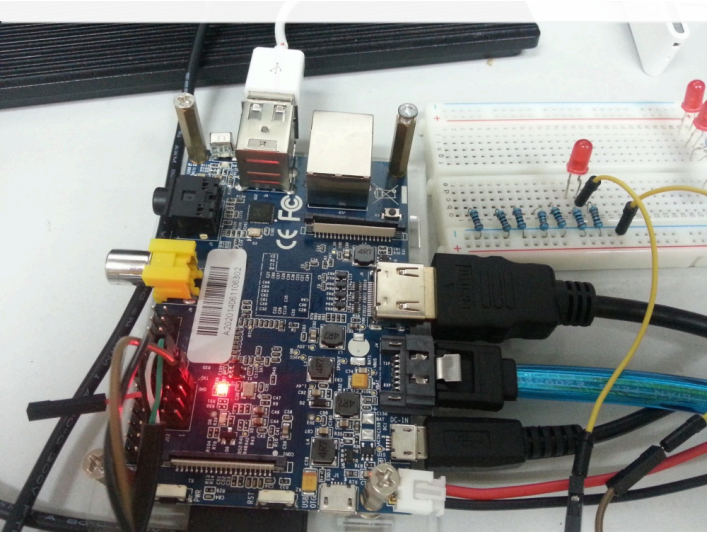
The simplest program: Blink

Blink is the simplest program to control the I/O pins on the board. Create a file called blink.c with the content:

```
#include <wiringPi.h>
int main (void)
{
    wiringPiSetup ();
    pinMode (0, OUTPUT) ;
    for (;;)
    {
        digitalWrite (0, HIGH) ; delay (500) ;
        digitalWrite (0, LOW) ; delay (500) ;
    }
    return 0 ;
}
```

Then to compile and run, you would enter below in the command line:

```
gcc -Wall -o blink blink.c -lwiringPi
sudo ./blink
```



The red LED will blink.

More Tests

HWL_Stouf did some very thorough and rigorous tests on the Banana Pi using WiringPi. Here is the link (<https://web.archive.org/web/20210830214052/http://forum.lemaker.org/viewthread.php?tid=1517&extra=page%3D1>)

BCM2835

Description

The modified BCM2835 gpio C library for Banana Pro can be download from LeMaker github.

Download

For Banana Pro:

```
git clone https://github.com/LeMaker/bcm2835_BP.git
```

Installation

```
./configure
make
```

After that, you can use the BCM2835 library to operate the gpio

WebioPi

Pigpio

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