

BananaPro/Pi:GPIO library

From BananaPro/Pi

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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
+-----+---+-----+-----+-----+
| 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 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>)

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
```

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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