

## Lesson 1 . blinking LED

### Introduction

In this lesson, we will learn how to program your Raspberry Pi to make an LED blink.

### Experimental Conditions

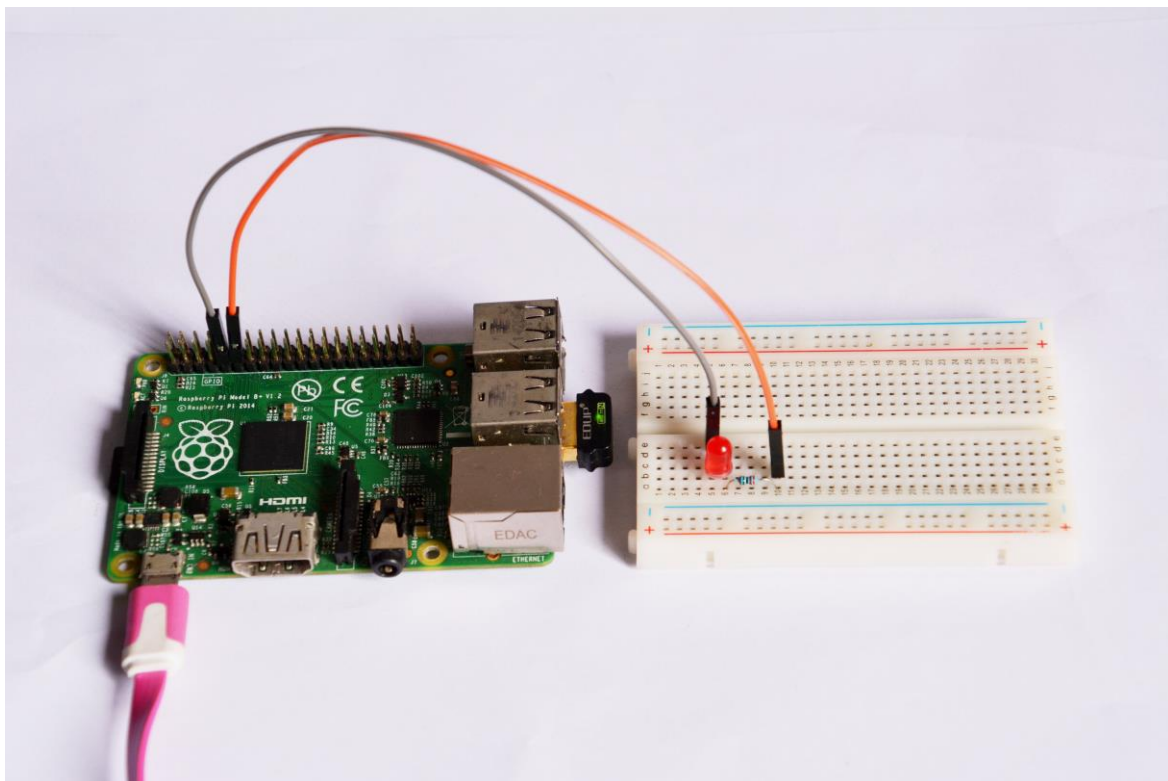
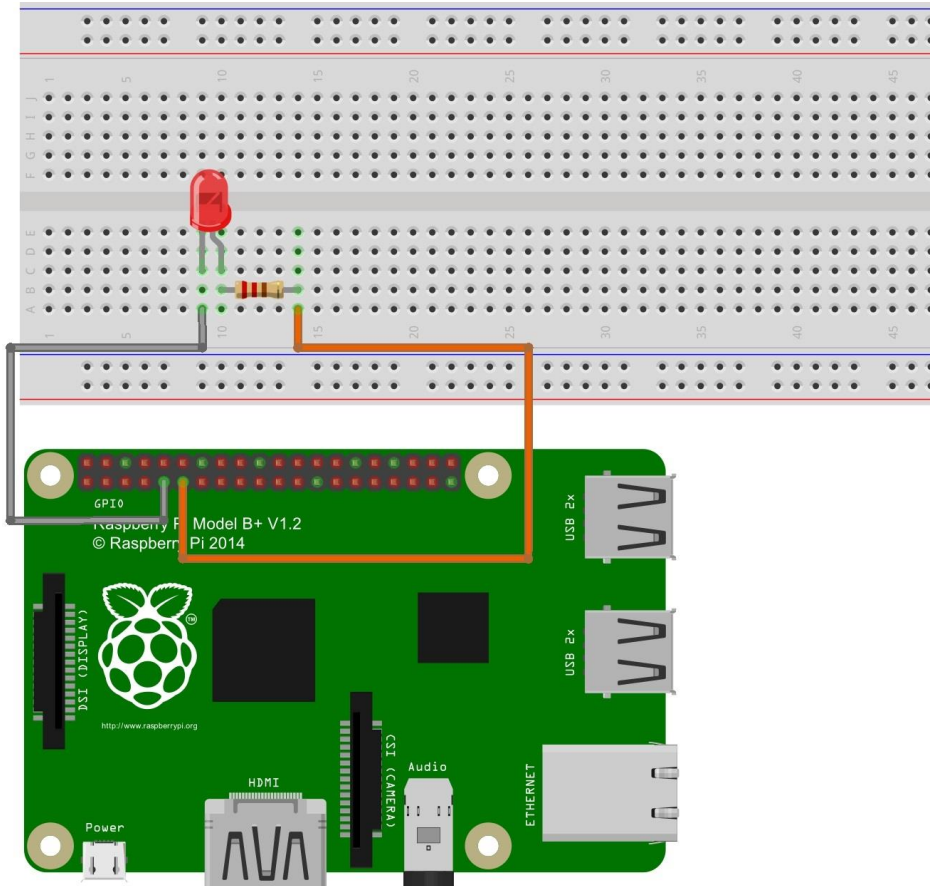
- 1\* Raspberry Pi
- 1\* Breadboard
- 1\* Network cable (or USB wireless network adapter)
- 1\* LED
- 1\* Resistor (220Ω)
- Jumper wires

wiringPi - Raspberry Pi GPIO:

BCM	wPi	Name	Mode	V	- B Plus - Physical		V	Mode	Name	wPi	BCM
		3.3v			1	2			5v		
2	8	SDA.1	ALTO	1	3	4			5V		
3	9	SCL.1	ALTO	1	5	6			0v		
4	7	GPIO. 7	IN	1	7	8	0	ALTO	TxD	15	14
		0v			9	10	1	ALTO	RxD	16	15
17	0	GPIO. 0	IN	0	11	12	0	IN	GPIO. 1	1	18
27	2	GPIO. 2	IN	0	13	14			0v		
22	3	GPIO. 3	IN	0	15	16	0	IN	GPIO. 4	4	23
		3.3v			17	18	1	OUT	GPIO. 5	5	24
10	12	MOSI	ALTO	0	19	20			0v		
9	13	MISO	ALTO	1	21	22	1	OUT	GPIO. 6	6	25
11	14	SCLK	ALTO	1	23	24	1	ALTO	CE0	10	8
		0v			25	26	1	ALTO	CE1	11	7
0	30	SDA.0	ALTO	1	27	28	1	ALTO	SCL.0	31	1
5	21	GPIO.21	IN	1	29	30			0v		
6	22	GPIO.22	IN	1	31	32	0	IN	GPIO.26	26	12
13	23	GPIO.23	IN	0	33	34			0v		
19	24	GPIO.24	IN	0	35	36	0	IN	GPIO.27	27	16
26	25	GPIO.25	IN	0	37	38	0	IN	GPIO.28	28	20
		0v			39	40	0	IN	GPIO.29	29	21

## Experimental Procedure

Step 1: Connect the circuit as shown in the following diagram



Step 2: Edit and save the code with vim

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

Step 3: Compile the code

```
gcc -o led led.c -lwiringPi
```

Step 4: Run the program

```
sudo ./led
```

Now, you can see your LED blinking.

