Now that we know the difference between the pin numbering systems, we can write a simple program utilizing the GPIO pins.

WiringPI code Examples

First off when compiling, do this:

If your code file was blink.c then save as **`blink.c`** and compile it with the following command:

```
$ gcc -o blink blink.c -lwiringPi
```

For the following examples, specifically notice how you set pins as inputs/outputs, select pins, and read pins. Its actually very intuitive. We also recommend using the internet to find other examples if necessary.

Code Example 1: This causes an LED to blink

blink.c

```
#include <stdio.h>
#include <wiringPi.h>

#define PIN0 0

int main(void)
{
    printf("Raspberry Pi blink\n");

    if (wiringPiSetup() == -1)
        return 1;

    pinMode(PIN0, OUTPUT);      // Set wiringPi pin 0 (i.e. pin #11 on the Pi) to output mode

    while(1) {
        digitalWrite(PIN0, 1);  // Send logical high to pin 0
        delay(500);             // Wait 500ms
        digitalWrite(PIN0, 0);  // Send logical low to pin 0
        delay(500);
    }

    return 0;
}
```

Code Example 2: This uses a button to swap LED states

button.c

```
/*
 * button.c:
 */

#include <stdio.h>
#include <wiringPi.h>

#define LED0    0
#define LED1    1
#define LED2    2
#define BUTTON  3

int main (void)
{

// Enable the on-goard GPIO

  wiringPiSetup () ;

  pinMode (BUTTON, INPUT) ;
  pinMode (LED0, OUTPUT) ;
  pinMode (LED1, OUTPUT) ;
  pinMode (LED2, OUTPUT) ;

  digitalWrite (LED0, LOW) ;            // LED0 off
  digitalWrite (LED1, HIGH) ;           // LED1 on
  digitalWrite (LED2, LOW) ;            // LED2 off

  for (;;)
  {
    if (digitalRead (BUTTON) == LOW)   // Swap LED states
    {
      digitalWrite (LED1, LOW) ;
      digitalWrite (LED2, HIGH) ;
      while (digitalRead (BUTTON) == LOW)
        delay (1) ;
      digitalWrite (LED1, HIGH) ;
      digitalWrite (LED2, LOW) ;
    }
    delay (1) ;
  }

  return 0 ;
}
```

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