

```
1
2  #include "adc.h"
3  #include "lcd.h"
4
5  void ADC_init()
6  {
7      GPIOA->CRL &= ~GPIO_CRL_CNF1 & ~GPIO_CRL_CNF2;
8      GPIOA->CRL &= ~GPIO_CRL_MODE1 & ~GPIO_CRL_MODE2;
9
10     ADC1->CR2 |= ADC_CR2_ADON | ADC_CR2_CAL;
11     ADC1->SMPR2 |= ADC_SMPR2_SMP1 | ADC_SMPR2_SMP2;
12     ADC1->SQR3 |= ADC_SQR3_SQ1_0;
13 }
14
15 bool ADC1_read(uint8_t channel)
16 {
17     if (channel == 0x0)
18     {
19         ADC1->SQR3 = ADC_SQR3_SQ1_0;
20     }
21     else if (channel == 0x1)
22     {
23         ADC1->SQR3 = ADC_SQR3_SQ1_1;
24     }
25     ADC1->CR2 |= ADC_CR2_ADON;
26     uint16_t data = 0x0;
27     while ((ADC1->SR & ADC_SR_EOC) != 0x2)
28     {
29     }
30     data = ADC1->DR;
31     if (data > 0x5AA)
32     {
33         return true;
34     }
35     else
36     {
37         return false;
38     }
39 }
40
41 void send_2_LCD1(uint8_t data)
42 {
43
44     uint32_t z = data;
45     int f = 4;
46
47     for (int i = 0; i < 2; i++)
48     {
49         z = data >> f;
50         f -= 4;
51         uint8_t x = (z & 0x0000000F);
52         if (x <= 0x9)
53         {
54             x += 0x30;
55         }
56         else if (x <= 0xF && x > 0x9)
57         {
58             x += 0x37;
59         }
60         Data_2_LCD(x);
61     }
62 }
63
64 void send_full(uint32_t data)
65 {
66     uint32_t z = data;
67     int f = 0;
68
69     for (int i = 0; i < 8; i++)
70     {
71         z = data >> (28-f);
72         f += 4;
73         uint8_t x = (z & 0x0000000F);
74         if (x <= 0x9)
```

```
74     {  
75         x += 0x30;  
76     }  
77     else if (x <= 0xF && x > 0x9)  
78     {  
79         x += 0x37;  
80     }  
81     Data_2_LCD(x);  
82 }  
83 }
```