

```
/*RS- P1.20, EN-P1.21 */
```

```
#include<lpc214x.h>
```

```
#define RS 1<<20      //define RS pin
```

```
#define EN 1<<21      //define EN pin
```

```
void LCD_data(unsigned char ch)
```

```
{
    IOCLR0 = 0x000FF000;      //clear LCD pins
    IOSET0 = ch<<12;          //shift data and set the data
    IOSET1 = RS;
    IOSET1 = EN;              //EN pulse
    delay(100);
    IOCLR1 = EN;
}
```

```
void LCD_cmd(unsigned char ch)
```

```
{
    IOCLR0 = 0x000FF000;
    IOSET0 = ch<<12;          //shift data and set the data
    IOCLR1 = RS;
    IOSET1 = EN;              //EN pulse
    delay(100);
    IOCLR1 = EN;
}
```

```
void LCD_init()
```

```
{
    IODIR0 = 0x000FF000;      //set the pins as output
    IODIR1 = RS | EN;

    LCD_cmd(0x38);            //8bit use both lines
    LCD_cmd(0x06);            //Entry mode
    LCD_cmd(0x0C);            //display ON cursor OFF
    LCD_cmd(0x01);            //Clear display
    LCD_cmd(0x80);            //cursor at 1st line 1st position
}
```