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/*****
* Name:      LCD.h
* Description: STM32 LCD display
* Version: V1.00
* Authors: Li Pan
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*****/

#include <stdint.h>
#include <math.h>

#define LCD_8B2L    0x38 //Enable 8 bit data,2 display lines
#define LCD_DCB     0x0F //Enable display Cursor Blink
#define LCD_MCR     0x06 //Set Move Cursor Right
#define LCD_CLR     0x01 //Home and clear LCD
#define LCD_LN1     0x80 //Set DDRAM to start of line1
#define LCD_LN2     0xC0 //Set DDRAM to start of line2

#define LCD_CM_ENA   0x00210002
#define LCD_CM_DIS   0x00230000
#define LCD_DM_ENA   0x00200003
#define LCD_DM_DIS   0x00220001

void LCD_IO_PC(void);

void CMD2LCD(uint8_t data);
void DATA2LCD(uint8_t data);

void INIT_LCD(void);
void STR2LCD(char *message);

uint16_t read_SW(void);
uint16_t SW2ASCII(void);
uint16_t SW2NUM(void);

uint32_t Hex2Ascii(uint32_t hexval);
void Float2LCD(double VAL, int DecLTR);

```