

MOTOR Module

Name	Systick_init
Input	Void
Return	Void
Description	Initialization foe systick

Name	Motor_rotateClockwise
Input	Void
Return	Void
Description	Makes the motor rotates in clockwise direction

Name	Motor_rotateAnticlockwise
Input	Void
Return	Void
Description	Make the motor rotates in anticlockwise direction

Name	Systick_waitMS()
Input	Void
Return	Void
Description	Wait 1 ms

Name	Motor_init()
Input	Void
Return	Void
Description	Initialization for the motor and buttons

Name	Delay()
Input	uint32_t time
Return	Void
Description	Delay for n second

ADC Module

Name	ADC_SS3_In
Input	Void
Return	uint16_t
Description	Read from port and sample, return digital values

Name	ADC0_Init
Input	Void
Return	Void
Description	Initialize Port E and activate ADC

UART Module

Name	UART0_Init
Input	Void
Return	Void
Description	Initializes UART by activating the alternate function of the desired port and setting the baud rate

Name	UART0_Available
Input	Void
Return	uint8_t
Description	Checks the availability of the register

Name	UART0_Read
Input	Void
Return	uint8_t
Description	Reads one character at a time

Name	UART0_Write
Input	uint8_t
Return	Void
Description	Writes one character at a time

Name	UART_sendString
Input	Pointer to a string
Return	Void
Description	Writes the whole string

Name	UART_receiveString
Input	Pointer to a string
Return	Void
Description	Reads the whole string

PWM Module

Name	pwm_init
Input	Void
Return	Void
Description	Initialize PWM

Name	pwm_setDutycycle
Input	uint8_t
Return	Void
Description	Control the density of led (output voltage)

Sensor Module

Name	ADC0_init()
Input	void
Return	void
Description	<p>Initialize Analog to Digital converter 0. Configure ADC0 module to enable internal temperature sensor.</p> <p>For ADC0: Active ADC0, bit 16 of RCGC register, Make sequencer 3 triggered software, get input channel 0enable temperature measurement, set flag on EOC at 1st sample, and enable ADC0 sequencer 3 after finishing configuration.</p>

Name	Tempsensor_read()
Input	void
Return	uint16_t
Description	<p>Reading values from internal temperature sensor.</p> <p>For Sensor: First initialize sequencer 3, waiting for temperature converting complete, then read the temperature value, and finally clear completion flag.</p>

LCD Module

Name	LCD_init
Input	Void
Return	Void
Description	<p>Initialize Port B and 3 pins from Port A, set direction, enable digital pins</p> <p>For LCD: Enable 2 lines, display on cursor off, clear display screen, shift cursor to right.</p>

Name	LCD_COMMAND
Input	Char
Return	Void
Description	Set enable pin, put data in DATA register, reset enable pin & RS pin.

Name	LCD_DATA_STRING
Input	Array of char
Return	Void
Description	To allow LCD to print whole string at once.

Name	LCD_DATA_CHAR
Input	Char
Return	Void
Description	To print one character at a time .

Name	itoa1
Input	int, array of char
Return	*char
Description	To be able to print temperature degree on LCD we convert it to string this function has the ability to do so.

Name	LCD_intgerToString
Input	uint32_t
Return	Void
Description	itoa1is called in it to convert and print on LCD

Name	LCD_CLEAR
Input	void
Return	void
Description	To clear LCD

