**//C programming of LPC1768 SPI protocol**

#include<stdio.h>

#include <lpc17xx.h>

void UART1\_init(void);

void UART1\_init()

{

LPC\_SC->PCONP |= (1 << 4);//enable power to UART1

LPC\_PINCON->PINSEL4 |=(2<<0)|(2<<2);//Pin P2.0 used as TXD1 and Pin P2.1 used as RXD1

LPC\_UART1->FCR= 0x07;//enable different FIFO

LPC\_UART1->LCR = 0x83;// 8 bits, no Parity, 1 Stop bit

LPC\_UART1->DLL = 0x12;//115200 Baud Rate @ 25.0 MHZ PCLK

LPC\_UART1->FDR = 0x21;//FR 1,507, DIVADDVAL=1, MULVAL=2

LPC\_UART1->DLM = 0x0;//High divisor latch = 0

LPC\_UART1->LCR = 0x03;// DLAB = 0

}

int main (void)

{

char a,b;

LPC\_GPIO0->FIODIR=(1<<15)|(1<<16)|(1<<18);

LPC\_GPIO0->FIODIR &=~(1<<17);

LPC\_SC->PCLKSEL0 &=~(3<<16); //pclk = cclk

LPC\_PINCON->PINSEL0 |= (3<<30); //Pin P0.15 allocated to function SCK

LPC\_PINCON->PINSEL1 |= (3<<0); //Pin P0.16 allocated to function SSEL

LPC\_PINCON->PINSEL1 |= (3<<2); //Pin P0.17 allocated to function MISO

LPC\_PINCON->PINSEL1 |= (3<<4); //Pin P0.18 allocated to function MOSI

LPC\_SC->PCONP |= (1 << 8); // enable power to spi clock //

LPC\_SPI->SPCCR = 0x08;// Set Spi Clock, In master mode it should be equal to 8

LPC\_SPI->SPCR = 0x0020;//slave mode

UART1\_init();

while(1)

{

LPC\_SPI->SPDR = a;

while(!(LPC\_SPI->SPSR & (1<<7)));// wait till SPI transmission

a=LPC\_SPI->SPDR;

b = a | 0x30;

while(!(LPC\_UART1->LSR & 0x20));//wait till UART1 transmission

LPC\_UART1->THR=b;

}

}