Topic 6 : SPI Serial Port



Problem 1 : Design two embedded systems using ATMEGA32 (working at 8Mhz) communicate together by SPI serial interface. One system work as the Master SPI, One system work as the Slave SPI. The Master SPI Microcontoller has 8 buttons, The Slave SPI Microcontoller has LEDs. Wrrite the C program to control the two system, When button0 is pressed the Master system will send character ‘0’ to slave system, When button1 is pressed the Master system will send character ‘1’ to slave system . When the slave system receiving new character from the SPI interface the system will toggle the relevant LED ( for example when the character received is ‘0’ LED0 will be toggled, when the character received is ‘1’ LED1 will be toggled).

Problem 2 : Convert the C Program of Master SPI Microcontroller into AVR Assembly code.