Topic 7 : I2C Interface



Problem 1 : Design two embedded systems using ATMEGA32 (working at 8Mhz) communicate together by I2C serial interface. One system work as the Master I2C Transmitter, One system work as the I2C Slave Receiver. The Master I2C Microcontoller has 8 buttons, The Slave I2C 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 I2C 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 I2C Microcontroller into AVR Assembly code.