Assignment

1. Write an AVR C program to send values 00-FF to port PORTB.
2. Write an AVR C program to send hex values for ASCII characters of 0, 1, 2, 3, 4, 5, A, B, C and D to port PORTB.
3. Write an AVR C program to toggle all the bits of PORTB 200 times continuously.
4. Write an AVR C program to send values -4 to 4 to PORTB.
5. Write an AVR C program to toggle all bits of PORTB 50,000 times.
6. Write an AVR C program to toggle bits of PORTB continuously forever with 100ms delay. Assume that the system is ATMega 16 with XTAL 8 Mhz .
7. Write an AVR C program to toggle all the bits of PORTB & PORTD continuously with a 250ms.
8. Write an AVR C program to get a byte of data from PORTB, wait ½ sec and then send it to PORTD.
9. Write an AVR C program to get a byte of data from PORTB. If less than 100, send it to PORTC otherwise send it to PORTD.
10. Write an AVR C program to toggle only bit 4 of PORTB continuously without disturbing the rest of bits of PORTB.
11. Write an AVR C program to monitor bit 5 of PORTC, if it is high, send 55H to PORTB; otherwise send AAH to PORTB.
12. A door sensor is connected to bit 1 of PORTB, and an led is connected to bit 7 of PORTB. Write an AVR C program to monitor door sensor, and when it opens, turn on the led. You can turn on the led by sending a square wave of a few hundred hertz.
13. The data pins of an LCD are connected to PORTB. The information is latched into the LCD whenever its enable pin goes from high to low. The enable pin is connected to the pin 5 of PORTC. Write an AVR C program to send “ The Earth is but One country” to this LCD.
14. Write an AVR C program to monitor the bit 7 of PORTB. If it is 1, then make bit 4 of PORTB input; otherwise make bit 4 of PORTB output.
15. Write an AVR C program to get the status of bit 5 of PORTB and send it to bit 7 of PORTC continuously.
16. Write an AVR C program to toggle all the bits of P0 and P2 continuously with a 250 ms delay.
17. Use the inverting operator (b) Use XOR operator
18. Write code to generate the following numbers: a) A number that has only a one in position D7

b) A number that has only a one in position D2

c) A number that has only a zero in position D5

d) A number that has only a zero in position D3

1. Re-write an AVR C program of Q-15 & Q-16. Using bitwise shift operator.