a. (6 pts) Assume a pushbutton switch is connected to port RB1 in low-true configuration (a push produces 0 V, a release 5 V), and a high-true LEDs to ports RB5, RB6. (logic 1 turns on LED, logic 0 turns off LED). Write code that will configure PORTB for this mode, and turn the LEDs initially off. Then write a loop such that the following occurs (you do not have to debounce the switches)

1. After press & release, RB5 LED ON, RB6 OFF
2. After press & release RB5 LED OFF RB6 ON
3. goto 1.

```c
TRISB1 = 1; //input
TRISB5 = 0; //output
TRISB6 = 0; //output
RB5 = 0; RB6 = 0; // both LEDs off
while(1) {
    while(RB1); //wait for press
    while(!RB1); //wait for release
    RB5 = 1; RB6 = 0; // RB5 ON, RB6 OFF
    while(RB1); //wait for press
    while(!RB1); //wait for release
    RB5 = 0; RB6 = 1;
}
```

b. When the Watchdog timer expires during normal code execution, what happens? When the watchdog timer expires when the PIC is asleep, what happens?

The PIC is reset (next instruction fetched from location 0x0000) when the WDT expires during normal operation.

The PIC begins executing where it left off (wakes up) if the WDT expires while asleep; this means it executes the instruction immediately following the SLEEP instruction.