```
/*****************************************************************************
 * pinread - Read the Pins connected to the switches
 * ----------------------------
 *  This function scans (debounces) the eight switches connected to PortD. It's
 *  extreamly efficient. This function was developed as per a request from
 *  professor Trailor for the ECE473 class for an efficient software debouncing
 *  algorithm.
 *
 *****************************************************************************/
void pinread(void)
{
    static uint8_t trk = 0;         //Used to track button pushes (so we don't keep executing the same
                                        //instruction while the user is holding the button down)
    uint8_t p1 = 0xFF;                  //Dummy variables for debouncing
    uint8_t sw_val = 0;             //-->Contains debounced value of PIND<--
    uint8_t i = 0;                      //Dummy counter variable

    //This for loop loops 8 times. Once for each pin on PortD.
    for(i=0;i<8;i++)
    {
        //This while() loops loops until a logic 1 or 0 has been read
        //8 times in a row on the current pin.
        while((p1 != 0x01) && (p1 != 0x80)) //Loop until only one '1' is left to be shifted out
        {
            if(PIND & (1<<i))
                p1 = p1<<1;                 //If the Switch read as a logical 1, shift left
            else
                p1 = p1>>1;                 //If the Switch read as a logical 0, shift right
        }

        if(p1 & 0x01)   //SW = logic 0 (Switch is being pushed)
            sw_val |= (1<<i);

        p1 = 0xFF; //reset p1
    }

    //At this point, sw_val contains the debounced value of PIND.

}
```