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include <pic18f4550.h>

#define RELAY_PIN LATAbits.LATA4

void interrupt extint_isr(void)
{
    unsigned int i;
    if(INT1F)
    {
        INT1F = 0;
        INT1IE = 0;
        RELAY_PIN = ~RELAY_PIN;
        for(i=0; i<10000; i++);    //small delay for debouncing
        INT1IE = 1;
    }
}

int main()
{
    ADCON1 = 0x0F;    //set pins as Digital
    TRISAbits.TRISA4 = 0;    //set relay pin RA4 as output
    TRISBbits.TRISB1 = 1;    //Interrupt pin as input
    RELAY_PIN = 1;

    INT1IE = 1;        //Enable external interrupt INT1
    INTEDG1 = 0;        //Interrupt on falling edge
    GIE = 1;           // Enable global interrupt

    while(1);
}

```