# CODE FOR LINE FOLLOWER

```
list p=16f628A
            #include<p16f628.inc>
            __CONFIG  _MCLRE_ON & _CP_OFF & _WDT_OFF &
_INTRC_OSC_NOCLKOUT
            ERRORLEVEL  -302
            cblock 0x20
                    temp
                    temp_s
            endc
;*****************************************************************
      org 0x00
      goto main
;********************************INTERRUPT LOOP****************
      org 0X04
inter:
            movwf       temp
            swapf       STATUS,w
            clrf        STATUS
            movwf       temp_s
            btfsc       PORTB,0x00
            goto        loop1
loop2:
            movlw       b'00000101'
            movwf       PORTA
            btfsc       PORTB,0x05
            goto        loop2
            goto        loop_x


loop1:
            movlw       b'10001000'
            movwf       PORTA
            btfsc       PORTB,0x00
            goto        loop1
loop_x
            bcf         INTCON,0x01
            bcf         INTCON,0x00
            swapf       temp_s,w
            movwf        STATUS
            swapf        temp,w
            retfie


main:
            bsf     INTCON,0x07              ;Globel interrupt enable(we are using
                                             interr.)
            bsf     INTCON,0x04
            bsf     INTCON,0x03              ;RB4-RB7 interrupt on change is
```

enabled/ in other words these pins will also work as
;interrupts and interrupt will occur every time any of these pin changes state
; i.e.:HIGH to LOW or LOW to HIGH, we can not set it to be on eather one state change

```
        bcf     INTCON, 0x01
        bcf     INTCON,      0x00              ;Clear RB4-RB7 interrupt flag so, that another interr. can occur.
```

;*******************************SET UP THE PORTS *****************

```
        bsf         STATUS,RP0              ;switch to BANK 1
        movlw       b'00100001'
        movwf       TRISB                   ;set RB6 & RB5 as input
        movlw       b'00000000'
        movwf       TRISA                   ;setPORT A all output
        bcf         STATUS,RP0                  ;back to BANK  0
        movlw       0x07                    ;turn comparators off, so HIGH will be simple HIGH rather than +5V (compared to supply) so with the LOW
        movwf       CMCON

Loop:

        movlw       b'00001001'
        movwf       PORTA                   ;set pin 0 of port a HIGH
        goto    Loop
        END
```
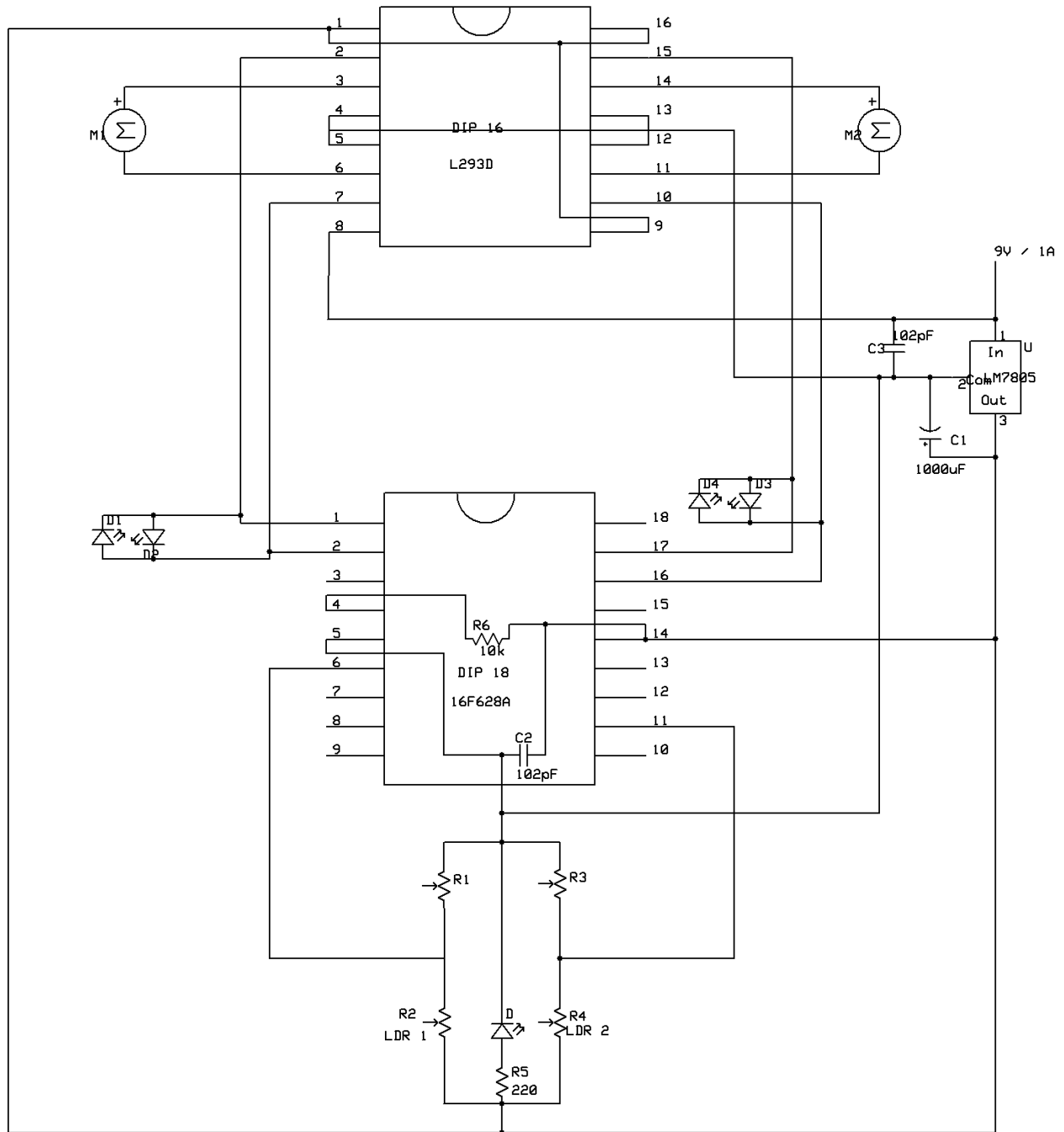
# CIRCUIT DIAGRAM

BLACK LINE FOLLOWER

input to 7805 is 9V / 1A

CHRIS

Rev 1.0

9/7/2008