This program transmits, via RS232, data received from a magnetic strip card reader. The reader can scan track 1 or track 2 on the card. 7 bit data is read from track 1 and 5 bit data is read from track 2 serially for each character. Additional circuitry converts the data to parallel and places it on Port A. A low going pulse is applied to Port B bit 0 when the parallel data is ready to be transmitted. An interrupt is generated by the transition on Port B b0. The controller loads the transmit buffer, TXREG, with the data from Port A. That data word is immediately transmitted at the selected baud rate. This is repeated until all read data is transmitted. Port C bit 0 is used as a status bit which is set while data is being transmitted and then cleared. It should be toggling while data is transmitted.

Port B bit 0 is used to generate the interrupt. Port C bits 6 and 7 are used for TX and RX for the RS232 communication.

Set terminal program to 9600 baud, 1 stop bit, no parity

;************************************************************
; Reset and Interrupt Vectors
;************************************************************
; Program begins here

Start

movlw b'00001111'; Assign all of PORTA as digital i/o
movwf ADCON1; Vref= Vss to Vdd, not AN2 and AN3
movlw b'01110010'; SET SYSTEM CLOCK TO 8 MHZ
movwf OSCCON
setf TRISA; Config PORTA as inputs
setf TRISB; Config PORTB as inputs
bsf TRISC,6; Make RC6 an input; EUSART will change it as needed
bsf TRISC,7; Make RC7 an input; EUSART will change it as needed
bcf TRISC,0; Use as transmit status monitor output; toggles during transmission
movlw 33h; 33h for 9600 baud @8MHz; 19h for 19200 baud @8Mhz
movwf SPBRG

bsf TXSTA, TXEN ; Enable transmit
bsf TXSTA, BRGH ; Select high baud rate
bsf RCSTA, SPEN ; Enable Serial Port
bsf INTCON2, INTEDG0 ; Interrupt on falling edge
bsf INTCON, INT0IE ; Enable INT0 interrupt on RB0
bsf INTCON, PEIE ; Enable peripheral interrupts
bsf INTCON, GIE ; Enable global interrupts

;*******************************************************************************
; Main loop

Main
  goto Main ; loop
;*******************************************************************************
; interrupt service routine

IntVector
  bcf INTCON, INTOIF ; Clear flag
  bsf LATC, 0 ; set PortC, 0 high to
  movff PORTA, TXREG ; Move data word byte into
                     ; TXREG for transmit

TXStat
  btfss TXSTA, TRMT ; Is TSR empty yet?
goto TXStat ; no, wait
goto ISREnd ; yes, finish

ISREnd
  bcf LATC, 0 ; Clear PortC, 0; end of transmit
  retfie

end