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/*Baud Rate GENERATION
* n  => required baudrate
* BRGH  = 0
* SPBRG  = (Fosc / (64 * n)) -1
* For 9600 baudrate, SPBRG ~=77
*/

#include<p18F4550.h>
#include<stdio.h>
#define Fosc 48000000UL

void InitUART(unsigned int baudrate)
{
    TRISCbits.RC6 = 0;           //TX pin set as output
    TRISCbits.RC7 = 1;           //RX pin set as input

    SPBRG = (unsigned char)(((Fosc /64)/baudrate)-1);
    BAUDCON = 0b00000000;        //Non-inverted data; 8-bit baudrate generator

    TXSTA = 0b00100000;          //Asynchronous 8-bit; Transmit enabled; Low speed
    baudrate select
    RCSTA = 0b10010000;          //Serial port enabled; 8-bit data; single receive enabled
}

void SendChar(unsigned char data)
{
    while(TXSTAbits.TRMT == 0);  //Wait while transmit register is empty

    TXREG = data;                 //Transmit data
}

void putch(unsigned char data)
{
    SendChar(data);
}

unsigned char GetChar(void)
{
    while(!PIR1bits.RCIF);        //Wait till receive buffer becomes full
    return RCREG;                 //Returned received data
}

void main(void)
{
    InitUART(9600);

    printf("\r\nHello MicroPIC-18F: Enter any Key from Keyboard\r\n");

    while(1)
    {
        printf("%c! ",GetChar()); //Receive character from PC and echo back
    }

    while(1);
}

```