#define F\_CPU 12000000

#include <avr/io.h>

#define USART\_BAUDRATE 9600

#define BAUD\_PRESCALE (((F\_CPU / (USART\_BAUDRATE \* 16UL))) - 1)

int main (void)

{

char ReceivedByte;

// Turn on the transmission and reception circuitry:

UCSRB |= (1 << RXEN) | (1 << TXEN);

// Use 8-bit character sizes:

UCSRC |= (1 << URSEL) | (1 << UCSZ0) | (1 << UCSZ1);

// Load lower 8-bits of the baud rate value into the low byte

// of the UBRR register:

UBRRL = BAUD\_PRESCALE;

// Load upper 8-bits of the baud rate value into the high byte

// of the UBRR register:

UBRRH = (BAUD\_PRESCALE >> 8);

for (;;) // Loop forever

{

// Do nothing until data have been recieved and is ready

// to be read from the UDR register:

while ((UCSRA & (1 << RXC)) == 0) {};

// Fetch the recieved byte value into the variable

// called "ByteReceived":

ReceivedByte = UDR;

// Do nothing until UDR is ready for more data to be

// written to it:

while ((UCSRA & (1 << UDRE)) == 0) {};

// Echo back the received byte back to the computer:

UDR = ReceivedByte;

}

}