Assignment-11

```
#include <xc.h>
//#define _XTAL_FREQ 45000000

void UART_Init() {
    TRISC6 = 0; // TX as output
    TRISC7 = 1; // RX as input
    SPBRG = 0x04; // For 9600 baud at 8MHz, BRGH = 1
    BRGH = 1;   // High-speed baud
    SYNC = 0;   // Asynchronous mode
    SPEN = 1;   // Enable serial port
    TXEN = 1;   // Enable transmitter
    CREN = 1;   // Enable receiver
}

void UART_TxChar(char data) {
    while (!TXIF);   // Wait until TX buffer is empty
    TXREG = data;    // Transmit data
}

char UART_RxChar() {
    while (!RCIF);   // Wait until data is received
    return RCREG;    // Read received data
}

void main() {
    UART_Init();

    while (1) {
        char ch = UART_RxChar(); // Receive char
        UART_TxChar(ch);         // Echo back
    }
}
```

```
15  void UART_TxChar(char data) {
16      while (!TXIF);   // Wait until TX buffer is emptv
```

Variables

Name	Type	Address	Value	Hexadecimal	Decimal
<Enter new watch>					
TRISC6	bit	0xF94	0x00	0x00	0
TRISC7	bit	0xF94	0x01	0x01	1

Name	Type	Address	Value	Hexadecimal	Decimal
<Enter new watch>					
RCIF	bit	0xF9E	0x00	0x00	0

```
16      while (!TXIF);   // Wait until TX buffer is emptv
```

Variables

Name	Type	Address	Value	Hexadecimal	Decimal
<Enter new watch>					
SPEN	bit	0xFAB	0x01	0x01	1
TXEN	bit	0xFAC	0x00	0x00	0

```
16      while (!TXIF);   // Wait until TX buffer is emptv
```

Variables

Name	Type	Address	Value	Hexadecimal	Decimal
<Enter new watch>					
BRGH	bit	0xFAC	0x01	0x01	1
SYNC	bit	0xFAC	0x00	0x00	0