

1. $f=12\text{MHz}$. The maximum baud rate = $12\text{MHz}/(16*1)=750,000$ baud
 $f=12/32$ MHz (1/32 of the clock). The minimum baud rate = $(12\text{MHz}/32)/(16*255) = 91.5$ baud
2. The voltage range of logical 0 is from +3 volts to +25 volts; The voltage range of logical 1 is from -3 volts to -25 volts;
3. Time to transmit = $(8 \text{ data bit} + 1 \text{ parity bit} + 1 \text{ start bit} + 1 \text{ stop bit})/19200 = 5.73 \times 10^{-4}$ seconds
4. `void init_UART()`
`{ u1brg=77; /*UART 0 bit rate generator 12M/16/9600 -1 =77*/`
`/*UART 1 transmit/receive mode; eight data bits*/`
`smd2_u1mr=1;`
`smd1_u1mr=0;`
`smd0_u1mr=1;`
`ckdir_u0mr=0; /*internal clock*/`
`stps_u1mr=0; /*one stop bit*/`
`prye_u1mr=0; /*no parity*/`
`/*UART1 transmit/receive control register 0*/`
`clk1_u1c0=0; /*12 MHz->9600 baud*/`
`clk0_u1c0=0;`
`nch_u1c0=0;`
`ckpol_u1c0=0;`
`uform_u1c0=0; /*LSB first*/`
`crs_u1c0=0;`
`crd_u1c0=1; /*disable CTS/RTS*/`
`/*UART1 transmit/receive control register 1*/`
`te_u1c1=1;`
`re_u1c1=1;`
`/*UART1 transmit/receive control register 2*/`
`u1irs=0;`
`u1rrm=0;`
`clkmd0=0;`
`clkmd1=0;`
`rcsp=1;`
`}`
5. Actual baud rate = $12\text{MHz}/16/(77+1)=9615.3$ baud
Error = $15.3/9600 = 0.16\%$