




Homework 2 - Conversions and bitwise exercises

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▼ Bitwise Exercises

- $4 \& 7 = 0100 \& 0111 = 0100 \rightarrow 4$
- $16 | 7 = 10000 | 00111 = 10111 \rightarrow 23$
- $2 \& (\sim 13) = 00010 \& (\sim 01101 \rightarrow 10010) = 00010 = 2$
- $5 \wedge 8 = 0101 \wedge 1000 = 1101 = 13 \rightarrow D$
- $7 \gg 2 = 0111 \gg 0010 = 000111 = 1$
- $84 \gg 4 = 1010100 \gg 0000100 = 000100101 = 5$
- $15 \ll 5 = 1111 \ll 0101 = 10100000 = 480$
- $4 \& (2 \ll 3) = 00011000 = 0100 \& 00011000 = 0$
- $2 | (19 \gg 1) = 10011 = 11$
- $0xFF \& (0x13 \ll 0x2) = 01001100 = 0x4C = 76$

▼ Conversions

- **Convert to hexadecimal**
- $1011\ 1100 \rightarrow 0xBC$
- $1000\ 0001\ 1100 \rightarrow 0x81C$
- $1000\ 0011\ 0011\ 1111\ 1010 \rightarrow 0x833FA$
- $1111\ 1010\ 0001 \rightarrow 0xFA1$
- $1111\ 1111\ 1111\ 1111\ 1101\ 1110 \rightarrow 0xFFFFDE$
- **Convert to binary**
- $84 \rightarrow 1000\ 0100$
- $0xFC15 \rightarrow 1111\ 1100\ 0001\ 0101$

- 0x5487DA → 0101 0100 1000 0111 1101 1010
- 298 → 0010 1001 1000
- 0xA15CB4 → 1010 0001 0101 1100 1011 0100