**Some Useful Tables**

**Binary-Hexadecimal**

The values in the left two columns are bitwise complements of the values in the right two columns. This is useful for converting signed numbers.

| Bin | Hex | Hex | Bin |
|---|---|---|---|
| 0000 | 0 | F | 1111 |
| 0001 | 1 | E | 1110 |
| 0010 | 2 | D | 1101 |
| 0011 | 3 | C | 1100 |
| 0100 | 4 | B | 1011 |
| 0101 | 5 | A | 1010 |
| 0110 | 6 | 9 | 1001 |
| 0111 | 7 | 8 | 1000 |

**Decimal-Hexadecimal**

The values in the left two columns are hexadecimal complements of the values in the right two columns. This is useful for converting signed numbers.

| Dec | Hex | Hex | Dec |
|---|---|---|---|
| 0 | 0 | F | 15 |
| 1 | 1 | E | 14 |
| 2 | 2 | D | 13 |
| 3 | 3 | C | 12 |
| 4 | 4 | B | 11 |
| 5 | 5 | A | 10 |
| 6 | 6 | 9 | 9 |
| 7 | 7 | 8 | 8 |

**Multiples of 16**

The conversion algorithms between hexadecimal and decimal require multiplying 16 times a decimal digit. This table shows these products.

| *d* | *d*×16 |
|---|---|
| 0 | 0 |
| 1 | 16 |
| 2 | 32 |
| 3 | 48 |
| 4 | 64 |
| 5 | 80 |
| 6 | 96 |
| 7 | 112 |
| 8 | 128 |
| 9 | 144 |

**Octal-Binary**

Here are conversions between octal digits and binary.

| Oct | Bin |
|---|---|
| 0 | 000 |
| 1 | 001 |
| 2 | 010 |
| 3 | 011 |
| 4 | 100 |
| 5 | 101 |
| 6 | 110 |
| 7 | 111 |

**Powers of 10 and 2**

This table shows the approximate relationship between powers of 10 and powers of 2 and their prefixes and abbreviations. The prefixes and abbreviations in parentheses are recommended for exact powers of 2. For example, a computer with 1 GiB (1 gibibyte) of memory has $2^{30}$ = 1,073,741,824 bytes.

| Prefix | Abbreviation | Power of 10 | Power of 2 |
|---|---|---|---|
| yocto | y | $10^{-24}$ | $2^{-80}$ |
| zepto | z | $10^{-21}$ | $2^{-70}$ |
| atto | a | $10^{-18}$ | $2^{-60}$ |
| femto | f | $10^{-15}$ | $2^{-50}$ |
| pico | p | $10^{-12}$ | $2^{-40}$ |
| nano | n | $10^{-9}$ | $2^{-30}$ |
| micro | µ | $10^{-6}$ | $2^{-20}$ |
| milli | m | $10^{-3}$ | $2^{-10}$ |
| – | – | $10^{0}$ | $2^{0}$ |
| kilo (kibi) | K (Ki) | $10^{3}$ | $2^{10}$ |
| mega (mebi) | M (Mi) | $10^{6}$ | $2^{20}$ |
| giga (gibi) | G (Gi) | $10^{9}$ | $2^{30}$ |
| tera (tebi) | T (Ti) | $10^{12}$ | $2^{40}$ |
| peta (pebi) | P (Pi) | $10^{15}$ | $2^{50}$ |
| exa (exbi) | E (Ei) | $10^{18}$ | $2^{60}$ |
| zetta (zebi) | Z (Zi) | $10^{21}$ | $2^{70}$ |
| yotta (yobi) | Y (Yi) | $10^{24}$ | $2^{80}$ |