Number conversion involves changing the representation of a number from one base system to another. The most common base systems used in computing are decimal (base-10), binary (base-2), octal (base-8), and hexadecimal (base-16). Here's how to convert numbers between these different bases:

1. Decimal to Binary:
    - Divide the decimal number by 2 and note down the remainder.
    - Repeat the process with the quotient until the quotient becomes zero.
    - The binary representation is the sequence of remainders in reverse order.
    - For example, to convert decimal 10 to binary:
    - Copy code

    - The binary representation is 1010.
2. Binary to Decimal:
    - Multiply each binary digit by 2 raised to the power of its position (starting from right to left, with the rightmost digit being position 0).
    - Add up the results.
    - For example, to convert binary 1010 to decimal:
    - scss
    - Copy code

```
1   2 3     0   2 2     1   2 1     0   2 0    8   0   2   0   10
```

    - The decimal representation is 10.
3. Decimal to Octal or Hexadecimal:
    - Divide the decimal number by 8 (for octal) or 16 (for hexadecimal) and note down the remainder.
    - Repeat the process with the quotient until the quotient becomes zero.
    - The octal or hexadecimal representation is the sequence of remainders in reverse order.
    - For example, to convert decimal 26 to octal:

```
26 ÷ 8 = 3 remainder 2
 3 ÷ 8 = 0 remainder 3
```

    - The octal representation is 32.
4. Octal or Hexadecimal to Decimal:
    - Multiply each digit by 8 raised to the power of its position (for octal) or 16 raised to the power of its position (for hexadecimal).
    - Add up the results.
    - For example, to convert hexadecimal 1A to decimal:

(1 * 16^1) + (A * 16^0) = (1 * 16) + (10 * 1) = 16 + 10 = 26

- The decimal representation is 26.

These are the basic methods for converting numbers between different base systems. You can use these techniques to perform conversions manually or use built-in functions in programming languages or calculator tools to automate the process.