Conversions of Number Systems

In [5]:
```python
def decimal_to_binary(n):
    return bin(n)[2:]

def decimal_to_octal(n):
    return oct(n)[2:]

def decimal_to_hexadecimal(n):
    return hex(n)[2:]

def binary_to_decimal(b):
    return int(b, 2)

def octal_to_decimal(o):
    return int(o, 8)

def hexadecimal_to_decimal(h):
    return int(h, 16)

def binary_to_octal(b):
    decimal = binary_to_decimal(b)
    return decimal_to_octal(decimal)

def binary_to_hexadecimal(b):
    decimal = binary_to_decimal(b)
    return decimal_to_hexadecimal(decimal)

def octal_to_binary(o):
    decimal = octal_to_decimal(o)
    return decimal_to_binary(decimal)

def octal_to_hexadecimal(o):
    decimal = octal_to_decimal(o)
    return decimal_to_hexadecimal(decimal)

def hexadecimal_to_binary(h):
    decimal = hexadecimal_to_decimal(h)
    return decimal_to_binary(decimal)

def hexadecimal_to_octal(h):
    decimal = hexadecimal_to_decimal(h)
    return decimal_to_octal(decimal)

if __name__ == "__main__":
    decimal_num = 29
    binary_num = '11101'
    octal_num = '35'
    hex_num = '1D'

    print(f"Decimal {decimal_num} to Binary: {decimal_to_binary(decimal_num)}"
    print(f"Decimal {decimal_num} to Octal: {decimal_to_octal(decimal_num)}")
    print(f"Decimal {decimal_num} to Hexadecimal: {decimal_to_hexadecimal(deci

    print(f"Binary {binary_num} to Decimal: {binary_to_decimal(binary_num)}")
    print(f"Binary {binary_num} to Octal: {binary_to_octal(binary_num)}")
    print(f"Binary {binary_num} to Hexadecimal: {binary_to_hexadecimal(binary_

    print(f"Octal {octal_num} to Decimal: {octal_to_decimal(octal_num)}")
```

```python
    print(f"Octal {octal_num} to Binary: {octal_to_binary(octal_num)}")
    print(f"Octal {octal_num} to Hexadecimal: {octal_to_hexadecimal(octal_num)

    print(f"Hexadecimal {hex_num} to Decimal: {hexadecimal_to_decimal(hex_num)
    print(f"Hexadecimal {hex_num} to Binary: {hexadecimal_to_binary(hex_num)}"
    print(f"Hexadecimal {hex_num} to Octal: {hexadecimal_to_octal(hex_num)}")
```

```
Decimal 29 to Binary: 11101
Decimal 29 to Octal: 35
Decimal 29 to Hexadecimal: 1d
Binary 11101 to Decimal: 29
Binary 11101 to Octal: 35
Binary 11101 to Hexadecimal: 1d
Octal 35 to Decimal: 29
Octal 35 to Binary: 11101
Octal 35 to Hexadecimal: 1d
Hexadecimal 1D to Decimal: 29
Hexadecimal 1D to Binary: 11101
Hexadecimal 1D to Octal: 35
```

In [ ]: