Aidan Border

Austin Scheetz

# Decimal to Binary

1. Divide your decimal number by 2 (For example, if the number was 128, perform 128 / 2).
2. Perform successive divisions using the answer from the previous division. Don’t go into decimal division, instead note down the remainder (For example, 128 / 2 is 64 with a remainder of 0. 64 / 2 is 32 with a remainder of 0).
3. Continue dividing until you get to 0 / 2. This is the first term in your binary number.
4. Write down the remainders from right to left starting from the final division. That’s your binary number!

# Binary to Decimal

1. Read the binary number from left to right.
2. Multiply the value in a given position by the base of the position.
3. Sum the results of step 2.

# Hexadecimal to Decimal

1. Multiply the values by 16 raised to the position of the value from right to left (raise the first 16 to the 0 power, NOT 1!).

# Decimal to Hexadecimal

1. Similar to the decimal to binary conversion, but instead of dividing by 2, we divide by 16.
   1. The only difference is that we will get remainders greater than one.
2. Convert the decimal remainders into their hexadecimal equivalents.

# Binary to Hexadecimal

1. Divide the binary number into groups of four bits (called nibbles). This will help to visualize the problem.
2. Convert each nibble into its equivalent hexadecimal number.

# Hexadecimal to Binary

1. Convert each hexadecimal digit into its equivalent nibble.
2. Write the nibbles together as one number.