Hexadecimal

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- Why do we care?
  - MAC Addresses
  - IPv6

Number Systems

- Decimal (Base 10 – ten numbers)
  - 0, 1, 2, 3, 4, 5, 6, 7, 8, 9

- Binary (Base 2 – two numbers)
  - 0 or 1

- Hexadecimal (Base 16 – sixteen numbers)
  - 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F

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Hexadecimal to Decimal

Hexadecimal	Decimal
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

Hexadecimal	Decimal
A	10
B	11
C	12
D	13
E	14
F	15

Hexadecimal to Decimal

Hexadecimal	Binary	Decimal
0	0000	0
1	0001	1
2	0010	2
3	0011	3
4	0100	4
5	0101	5
6	0110	6
7	0111	7
8	1000	8
9	1001	9

Hexadecimal	Binary	Decimal
A	1010	10
B	1011	11
C	1100	12
D	1101	13
E	1110	14
F	1111	15

Examples

Decimal	Binary	Hexadecimal
128	1000 0000	80
255	1111 1111	FF
224	1110 0000	E0
240	1111 0000	F0

Examples

Decimal	Binary	Hexadecimal
255.255.255.255	1111 1111 1111 1111 1111 1111 1111 1111	FF FF FF FF
10.1.1.1	0000 1010 0000 0001 0000 0001 0000 0001	0A 01 01 01
224.1.2.3	1110 0000 0000 0001 0000 0010 0000 0011	E0 01 02 03

Calculators

- Binary, Decimal and Hexadecimal Converter:

  - https://davidbombal.com/binary-decimal-hexadecimal-converter/

- Visual Decimal to Binary Converter:

  - https://davidbombal.com/decimal-to-binary/

- Subnet Calculator:

  - https://davidbombal.com/subnetting-concepts-calculator/

Test yourself

- Hexadecimal Quiz

  - https://davidbombal.com/quiz/?title=hexadecimal-questions-free-exam-questions

- Hexadecimal to Decimal Unlimited Quiz

  - https://davidbombal.com/hex-to-decimal-quiz/

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