

292024025 연준영

논리회로 1-3

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$$213_{10} \div 2 = 106 + 1$$

$$514_{16} = 0101\ 0001\ 0100$$

$$106 \div 2 = 53 + 0$$

$$53 \div 2 = 26 + 1$$

$$26 \div 2 = 13 + 0$$

$$13 \div 2 = 6 + 1$$

$$6 \div 2 = 3 + 0$$

$$3 \div 2 = 1 + 1$$

$$1 \div 2 = 0 + 1$$

$$213_{10} = 11010101_2$$

$$\begin{array}{r} 514_{16} \\ - 213_{10} \end{array} \Rightarrow \begin{array}{r} 010100010100 \\ - 000011010101 \end{array} \Rightarrow \begin{array}{r} 010100010100 \\ + 111100101011 \\ \hline 010000111111 \end{array}$$

$$010000111111_2$$

$$= 1 \times 2^0 + 1 \times 2^1 + 1 \times 2^2 + 1 \times 2^3 + 1 \times 2^4 + 1 \times 2^5 + 0 \times 2^6 + 0 \times 2^7 + 0 \times 2^8 + 0 \times 2^9 + 1 \times 2^{10}$$

$$= 1087_{10}$$

$$\therefore -213_{10} + 514_{16} = 1087_{10}$$