

Tutorial - 01

①

- i) $7256_{10} = 100000000_2$
- ii) $354_{10} = 10110012_2$
- iii) $29_{10} = 11101_2$
- iv) $43_{10} = 101011_2$
- v) $91_{10} = 1011011_2$

②

- i) $111011_2 = 59_{10}$
- ii) $110000101_2 = 389_{10}$
- iii) $100000000_2 = 128_{10}$
- iv) $110110110_2 = 438_{10}$
- v) $110000100_2 = 398_{10}$

③

- i) $34_{10} = 100|010_2 = 42_8$
- ii) $54_{10} = 110|110_2 = 66_8$
- iii) $135_{10} = 010|000|111_2 = 207_8$
- iv) $345_{10} = 101|011|001_2 = 531_8$
- v) $255_{10} = 111|111|111_2 = 777_8$

④

- i) $64_8 = 110100_2 = 52_{10}$
- ii) $34_8 = ~~100010~~ 011100_2 = 28_{10}$
- iii) $77_8 = 111111_2 = 63_{10}$
- iv) $45_8 = 1000101_2 = 37_{10}$
- v) $13_8 = 001011_2 = 11_{10}$

⑤

- i) $1256_{10} = 0100|1110|1000_2 = ~~408_8~~ 4E8_{16}$
- ii) $56_{10} = 0011|1000_2 = 38_{16}$
- iii) $320_{10} = 1|0100|0000_2 = 140_{16}$
- iv) $48_{10} = 0011|0000_2 = 30_{16}$
- v) $34_{10} = 0010|0010_2 = 22_{16}$

⑥ i) $16_{10} = 10110_2 = 22_{10}$
 ii) $3A_{16} = 111010_2 = 58_{10}$
 iii) $CA3_{16} = 110010100011_2 = 547_{10}$
 iv) $33_{16} = 110011_2 = 49_{10}$
 v) $9D_{10} = 10011101_2 = 164_{10}$

⑦ i) $11011111_2 = 2337_8$
 ii) $1000000_2 = 40_8$
 iii) $1100001_2 = 141_8$
 iv) $10011001_2 = 231_8$
 v) $110001_2 = 61_8$

⑧ i) $34_8 = 11100_2$
 ii) $52_8 = 101010_2$
 iii) $124_8 = 1010100_2$
 iv) $22_8 = 10010_2$
 v) $23_8 = 10011_2$

⑨ i) $11110000_2 = F0_{16}$
 ii) $11001000_2 = C8_{16}$
 iii) $01101010_2 = 6A_{16}$
 iv) $11100000_2 = 30_{16}$
 v) $10000_2 = 10_{16}$

⑩ i) $2A_{16} = 101010_2$
 ii) $349_{16} = 110001001_2$
 iii) $23_{16} = 100011_2$
 iv) $AA_{16} = 10101010_2$
 v) $3D_{16} = 111101_2$

$$\begin{aligned} \textcircled{11} \text{ i) } 45_8 &= 1010101_2 = 25_{16} \\ \text{ii) } 67_8 &= ~~110111~~ 110111_2 = 37_{16} \\ \text{iii) } 341_8 &= 11101001_2 = E1_{16} \\ \text{iv) } 234_8 &= 10011100_2 = 9C_{16} \\ \text{v) } 23_8 &= 10011_2 = 13_{16} \end{aligned}$$

$$\begin{aligned} \textcircled{12} \text{ i) } 2A_{10} &= 1011010_2 = 52_8 \\ \text{ii) } 34D_{16} &= 11101001101_2 = 1515_8 \\ \text{iii) } 50_{16} &= 1011000_2 = 120_8 \\ \text{iv) } 91A_{10} &= 100100011010_2 = 4432_8 \\ \text{v) } 14_{10} &= 101100_2 = 24_8 \end{aligned}$$