

# Lab 3 - Nasa Float Format Conversions

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CSC - 174

#1

$$① 37.25_{10} = 25.4_{16}$$

$$37 \div 16 = 5$$

$$0.25 \times 16 = 4.0$$

$$\text{int}(37/16) \div 16 = 2$$

$$② 25.4_{16} = 00100101.0100_2$$

$$③ \underline{10010101} \times 2^0 = 0.10010101 \times 2^6$$

$$④ 0.\underline{10010101} \times 2^6$$

$$\underline{100101.01} \times 2^0$$

$$2 \mid 5.4_{16} \checkmark$$

$$⑤ \underline{0.1001010} \mid \underline{10000000} \mid \underline{00000000} \mid \underline{00000110}$$

⑥

4 A 8 0 0 0 0 6

#2

$$① 0.2_{10} = 0.\bar{3}_{16}$$

$$0.2 \times 16 = 3.2$$

$$0.2 \times 16 = 3.2$$

;

$$② 0.\bar{3}_{16} = 0.\overline{0011}_2$$

$$③ 0.\underline{0011} \times 2^0 = \overline{0011.0} \times 2^4$$

$$④ \underline{11.0} \times 2^4$$

$$0.00\underline{11} \times 2^0$$

$$0.\bar{3}_{16} \checkmark$$

$$⑤ \underline{0.0110011} \mid \underline{00110011} \mid \underline{00110011} \mid \underline{00000100}$$

⑥ 3 3 3 3 3 3 0 4