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CSC-17A

Lab 2 Conversions (Base 2,8,10,16)

1. 0.25_{10} → Base 2,8,16

0.25_{10} → .2 + .05

10^{-1} 10^{-2}

2/10 + 5/100

$2\times10^{-1} + 5.\times10^{-2}$

$.25_{10}$ → — 16

$.25 \times 16 = 4.0$

$.25_{10} \rightarrow .4_{16} = 4/16 = .25$

$.0100_2 = 1\times2^{-2} = 1/4 = .25$

$.2_8 = 2/8 = 1/4 = .25$

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Lab 2 Conversions (Base 2,8,10,16)

2. 0.25_8 → Base 2,10,16

$0.25_8 \rightarrow .2_8 + .05_8$

$8^{-1}\ 8^{-2}$

$2/8 + 5/64 = \frac{16+5}{64} = 21/64$

$2 \times 8^{-1} + 5 \times 8^{-2}$

$21/64 = \boxed{0.328125_{10}}$

.25

$\boxed{.010101_2} = 1/4 + 1/16 + 1/64$

$= \frac{16+4+1}{64} = 21/64$

.01010100

$\boxed{.54_{16}} = 5/16 + 4/256$

$= 20/64 + 1/64$

$= 21/64$

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$0.25_{16} \rightarrow$ Base 2,8,10

$3. .25_{16} = 2/16 + 5/16^2$

$= \frac{32+5}{16^2} = 37/256$

$= \boxed{.14453125_{10}}$

.25

$\boxed{.0010\ 0101_2} = 1/8 + 1/64 + 1/256$

$= \frac{32+4+1}{256} = \frac{37}{256}$

.00100101

$\boxed{.1\ 1\ 2\ 8} = 1/8 + 1/64 + 1/256$

$= \frac{32+4+1}{256} = \frac{37}{256}$

Lab 2 Conversions (Base 2, 8, 10, 16) Attila K.
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$.1101_2 \rightarrow$ Base 8, 10, 16

2^{-1} 2^{-2} 2^{-4}

$4,.1101_2 = 1/2 + 1/4 + 1/16 = \frac{8+4+1}{16} = \frac{13}{16}$

$D_{16} = 13/16$

.110 100

$.6\ 4_8 = 6/8 + 4/64 = 12/16 + 1/16$

$= 13/16$

$= .8125_{10}$