SHANE MARIE M. IGNACIO
UCOE 3-1

1. $FEED_{16} = 1111111011101101_2$

F=15 E=14 E=14 D=13

$15 \times 16^3 + 14 \times 16^2 + 14 \times 16^1 + 13 \times 16^0$

$15 \times 4096 + 14 \times 256 + 14 \times 16 + 13 \times 1$

$61440 + 3584 + 224 + 13 = 65261$

65261 ÷ 2 = 32,630 R1
32,630 ÷ 2 = 14,315 R0
14315 ÷ 2 = 8157 R1
8157 ÷ 2 = 4078 R1
4078 ÷ 2 = 2039 R0
2039 ÷ 2 = 1019 R1
1019 ÷ 2 = 509 R1
509 ÷ 2 = 254 R1
254 ÷ 2 = 127 R0
127 ÷ 2 = 63 R1
63 ÷ 2 = 31 R1
31 ÷ 2 = 15 R1
15 ÷ 2 = 7 R1
7 ÷ 2 = 3 R1
3 ÷ 2 = 1 R1
1 ÷ 2 = 0 R1

2. $DEAD_{16} = 1101111010101101_2$

D=13 E=14 A=10 D=13

$13 \times 16^3 + 14 \times 16^2 + 10 \times 16^1 + 13 \times 16^0$

$13 \times 4096 + 14 \times 256 + 10 \times 16 + 13 \times 1$

$53248 + 3584 + 160 + 13 = 57005$

57005 ÷ 2 = 28502 R1
28502 ÷ 2 = 14251 R0
14251 ÷ 2 = 7125 R1
7125 ÷ 2 = 3562 R1
3562 ÷ 2 = 1781 R0
1781 ÷ 2 = 890 R1
890 ÷ 2 = 445 R0
445 ÷ 2 = 222 R1
222 ÷ 2 = 111 R0
111 ÷ 2 = 55 R1
55 ÷ 2 = 27 R1
27 ÷ 2 = 13 R1
13 ÷ 2 = 6 R1
6 ÷ 2 = 3 R0
3 ÷ 2 = 1 R1
1 ÷ 2 = 0 R1

3. $BEAD_{16} = 1011111010101101_2$

B=11 E=14 A=10 D=13

$11 \times 16^3 + 14 \times 16^2 + 10 \times 16^1 + 13 \times 16^0$

$11 \times 4096 + 14 \times 256 + 10 \times 16 + 13 \times 1$

$45056 + 3584 + 160 + 13 = 48813$

48813 ÷ 2 = 24406 R1
24406 ÷ 2 = 12203 R0
12203 ÷ 2 = 6101 R1
6101 ÷ 2 = 3050 R1
3050 ÷ 2 = 1525 R0
1525 ÷ 2 = 762 R1
762 ÷ 2 = 381 R0
381 ÷ 2 = 190 R1
190 ÷ 2 = 95 R0
95 ÷ 2 = 47 R1
47 ÷ 2 = 23 R1
23 ÷ 2 = 11 R1
11 ÷ 2 = 5 R1
5 ÷ 2 = 2 R1
2 ÷ 2 = 1 R0
1 ÷ 2 = 0 R1

4. $255_{16} = \underline{1001010101}_2$

255 ÷ 14 = 15.9375 R15

15 ÷ 16 = 0.9375 R15

$255 = (2\times16^2)+(5\times16^1)+(5\times16^0) =$

$2\times256 + 5\times16 + 5\times1$

$512 + 80 + 5 = 597$

597 ÷ 2 = 298 R1

298 ÷ 2 = 149 R0

149 ÷ 2 = 74 R1

74 ÷ 2 = 37 R0

37 ÷ 2 = 18 R1

18 ÷ 2 = 9 R0

9 ÷ 2 = 4 R1

4 ÷ 2 = 2 R0

2 ÷ 2 = 1 R0

1 ÷ 2 = 0 R1

5. $192_{16} = \underline{110010010}_2 = \underline{402}_{10}$

$192 = (1\times16^2)+(9\times16^1)+(2\times16^0)$

$1\times256 + 9\times16 + 2\times1$

$256 + 144 + 2 = \underline{402}$

402 ÷ 2 = 201 R0

201 ÷ 2 = 100 R1

100 ÷ 2 = 50 R0

50 ÷ 2 = 25 R0

25 ÷ 2 = 12 R1

12 ÷ 2 = 6 R0

6 ÷ 2 = 3 R0

3 ÷ 2 = 1 R1

1 ÷ 2 = 0 R1

8 7 6 5 4 3 2 1 0

1 1 0 0 1 0 0 1 0

$256 + 128 + 16 + 2 = \underline{402}$

6. $56_{10} = \underline{111000}_2$

56 ÷ 2 = 28 R0

28 ÷ 2 = 14 R0

14 ÷ 2 = 7 R0

7 ÷ 2 = 3 R1

3 ÷ 2 = 1 R1

1 ÷ 2 = 0 R1

7. $95_{10} = \underline{1011111}_2$

95 ÷ 2 = 47 R1

47 ÷ 2 = 23 R1

23 ÷ 2 = 11 R1

11 ÷ 2 = 5 R1

5 ÷ 2 = 2 R1

2 ÷ 2 = 1 R0

1 ÷ 2 = 0 R1

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