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Lab 2

1. Convert Decimal to 8 bit Binary
    a. -49 = 1100 1111_2
    b. -239 = XXXX XXXX
    c. -95 = 1010 0001_2
    d. -200 = XXXX XXXX
    e. -101 = 1001 1011_2
2. Convert to HEX
    a. 10477 = 28ED
    b. 23948 = 5D8C
    c. -33395 = XXXX
    d. -2000 = F830
    e. -10101 = D88B
3. Convert HEX to Decimal
    a. DE28 = -8664
    b. CCC5 = -13115
    c. 543A = 21562
    d. 044F = 1103
    e. F0F0 = -3856
4. Convert Decimal to Radix
    a. $4579 = 10743_8$
    b. $243 = 3303_4$
    c. $3000 = 18A0_{12}$
    d. $97 = 241_6$
    e. $100 = 10201_3$
5. Convert
    a. $A9_{16} = 1010\ 1001_2$
    b. $2A6_{16} = 678_{10}$
    c. $489_{10} = 1E9_{16}$
    d. $496_{10} = 0100\ 1001\ 0110_2$
    e. $0111\ 0101\ 1000_{BCD} = 758_{10}$
    f. $1001\ 0101_{BCD} = 0101\ 1111_2$

Lab 3

1. Add
    a. 1001 + 0101 = 01110
    b. 1100 + 0110 = 10010
    c. 0011 + 1100 = 01111
    d. 0101 + 0111 = 01100

    e. 1011 + 0010 = 01101
2. Add 4 bit
    a. 1001 + 0101 = 1110, OF = 0
    b. 1100 + 0110 = 0010, OF = 0
    c. 0011 + 1100 = 1111, OF = 0
    d. 0101 + 0111 = 1100, OF = 0
    e. 0001 + 1111 = 0000, OF = 1
3. Add 8 bit
    a. 58 + -100 = 1101 0110, OF = 0
    b. -35 + -69 = 1001 1000, OF = 0
    c. 89 + 75 = 1010 0100, OF = 1
    d. -126 + -13 = 0111 0101, OF = 1
    e. -105 + 80 = 1110 0111, OF = 0
4. Convert Decimal to 8 bit to 2's Complement
    a. 44
        i. 0010 1100
        ii. 1101 0100
    b. 81
        i. 0101 0001
        ii. 1010 1111
    c. 113
        i. 0111 0001
        ii. 1000 1111
    d. 62
        i. 0011 1110
        ii. 1100 0010
    e. 125
        i. 0111 1101
        ii. 1000 0011
5. Sum Hex
    a. 6B4 + 3FD = AB2
    b. A49 + 6BD = 1106
    c. 7C4 + 3BE = B82
    d. B69 + 7AD = 1316
6. Sum of 12
    a. 6B4 + 3FE
        i. $AB2_{16}$
        ii. -1358_{10}
    b. A49 + 6BD
        i. 106_{16}
        ii. 262_{10}
    c. 7C4 + 3BE
        i. $B82_{16}$
        ii. -1150_{10}

    d. B69 + 7AD
        i. 316_{16}
        ii. 790_{10}
7. Subtraction of HEX
    a. 6B4 + 3FE
        i. 2B6
        ii. 694
    b. A49 + 6BD
        i. 38C
        ii. 908
    c. 7C4 + 3BE
        i. 406
        ii. 1030
    d. B69 + 7AD
        i. 3BC
        ii. 956
8. Initials
    a. M
        i. 77
        ii. 4D
        iii. 0100 1101
        iv. 115
        v. U + 4D
    b. Z
        i. 90
        ii. 5A
        iii. 0101 1010
        iv. 132
        v. U + 5A
9. IEEE
    a. +10.75
        i. 0
        ii. 1000 0010
        iii. 0101 1000 0000 0000 0000 0000
    b. -76.0625
        i. 1
        ii. 1000 0010
        iii. 0011 0000 0100 0000 0000 0000
10. Convert IEEE Hex to Decimal
    a. 16.75_{10}
    b. $-187, 310\ 080_{10}$