Encoding HW

AJ

A) Slide 51. To find neg, compement the binary value and add 1. You can also use the scan method.

B) 1111 1101 = -128 + 64 + 32 + 16 + 8 + 4 + 1
= -3

0011 0100 = 32 + 16 + 4
= 52

1101 0011 = -128 + 64 + 16 + 2 + 1
= -45

0010 1111 = 32 + 8 + 4 + 2 + 1
= 47

-99 = -128 + 16 + 8 + 4 + 1
= 1001 1101

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79 = 64 + 8 + 4 + 2 + 1
= 0100 1111

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101 = 64 + 32 + 4 + 1
= 0110 0101

-123 = -128 + 4 + 1
= 1000 0101

[PART 3]

Encodings HW AJ

A) Slide 49. If most sig bit is 1, then decimal value is neg. If it is 0 then just add. If it is 1, then add value of the rest complemented.

B) 1010 1010 = $(-1)^1 (64+16+4+1) = -85$

0111 0010 = $(-1)^0 (64+32+16+2) = 114$

1001 0101 = $(-1)^1 (64+32+8+2) = -106$

0011 1111 = $(-1)^0 (32+16+8+4+2+1) = 63$

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58 = 32+16+8+2 = 00111010

-39 = -(~[32+4+2+1]) = 11011000

117 = 64+32+16+4+1 = 01110101

-75 = -(~[64+8+2+1]) = 10110100

[PART 2]