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CSIS 45 Assignment 1

Assignment 1: Convert Binary to Decimal, Decimal to Binary

1. Convert the numbers 47 and 23 from Decimal to Binary

a) 47

47/2 = 23.5 🡪 1

23/2 = 11.5 🡪 1

11/2 = 5.5 🡪 1

5/2 = 2.5 🡪 1

2/2 = 1 🡪 0

1/2 = 0.5 🡪 1

Read Up 🡪 101111

Decimal: 47 🡪 Binary 0010 1111

b) 23

23/2 = 11.5 🡪 1

11/2 = 5.5 🡪 1

5/2 = 2.5 🡪 1

2/2 = 1 🡪 0

1/2 = 0.5 🡪 1

Read Up 🡪 10111

Decimal: 23 🡪 Binary 0001 0111

2. Convert the binary sequence 11011 and 11101 from Binary to Decimal

a) 11011

\_\_ \_\_ \_\_ \_\_ \_\_ \_\_ \_\_ \_\_ = 8 bits or 1 byte

128 64 32 16 8 4 2 1

0 0 0 1 1 0 1 1

0(128) + 0 (64) + 0(32) + 1(16) + 1(8) +0(4) + 1(2) + 1(1) = 27

Binary: 0001 1011 🡪 Decimal: 27

b) 11101

\_\_ \_\_ \_\_ \_\_ \_\_ \_\_ \_\_ \_\_ = 8 bits or 1 byte

128 64 32 16 8 4 2 1

0 0 0 1 1 1 0 1

0(128) + 0 (64) + 0(32) + 1(16) + 1(8) +1(4) + 0(2) + 1(1) = 29

Binary: 0001 1101 🡪 Decimal: 29