***Assignment 1***

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| **Answer the following questions below** |  |  |  |

For Q1 & Q2 you need to show your work

## Q1: Translate the following Bytes to Decimal and Hexadecimal

1. 00001001

**8421 = 8 + 1 =9**

1. 111111111

**256 128 64 32 16 8 4 2 1 = 256+128+64+32+16+8+4+2+1=511**

1. 11101110

**128 64 32 16 8 4 2 1 = 128+64+16+8+4+2=511**

1. 01010101     
      **64 32 16 8 4 2 1 = 64+16+8+4+1 = 85**

## Q2: Translate the following Decimal to Bytes (8-bit sequences)

1. 8

**128 64 32 16 8 4 2 1 = 00001000**

1. 3.15

**3/2 = 1 = 1**

**1/2 = 0 = 1**

**.15 . 2 = 0.30 = 0**

**0.3 .2 = 0.60 = 0**

**0.6 .2 = 1.20 = 1**

**0.2 .2 = 0.4 = 0**

**0.4 .2 = 0.8 = 0**

**0.8.2 = 1.6 = 1**

**=11.001001**

1. 134

**134/2 = 67 = 0**

**67/2 = 33 = 1**

**33/2 = 16 = 1**

**16/2 = 8 =0**

**8/2= 4=0**

**4/2=2=0**

**2/2 = 1 = 0**

**1/2 = 0 = 1**

**=10000110**

1. -25

**-25/2 = 12 =1**

**12/2 = 6 = 0**

**6/2 = 3 = 0**

**3/2 = 1 = 1**

**1/2 = 0 = 1**

**00011001**

**+ 11100110**

**= 11100111**

1. 226

**226/2 = 113 = 0**

**113/2 = 56 = 1**

**56/2 = 28 = 0**

**28/2 = 14 = 0**

**14/2 = 7 = 0**

**7/2 = 3 = 1**

**3/2 = 1 = 1**

**1/2 = 0 =1**

**11100010**

1. 4

4/2 **= 2 = 0**

**2/2 = 1 = 0**

**1/2 = 0 = 1**

**00000100**

1. 10.185

**10/2 = 5 = 0**

**5/2 = 2 = 1**

**2/2 = 1 = 0**

**1/2 = 0 = 1**

**.185 . 2= 0.37 = 0**

**0.37.2 = 0.74 = 0**

**0.74 .2 = 1.48 = 1**

**0.48 . 2 = 0.96 = 0**

**0010**

**= 1010.0010**

## Q3: Write a C++ program to convert a binary number into hexadecimal.

Note: for this question you need to submit the source code and screen shot for the output