**Quiz 1 solution**

1. What is 100110101 in hexadecimal? (1 point)

0001, 0011, 0101 --🡪 135 h (without h is ok )

0001 = 1\*20 =1

0011= 1\*21 + 1\*20 = 2+1 =3

0101= 1\*22 + 1\*20 =4+1 =5

1. What is the hexadecimal value 450B in binary? (1 point)

0100 0101 0000 1011

4 = 0100

5 = 0101

0 = 0000

B= 1011

1. Suppose that we have the binary number 1000001 (assume that it is unsigned). What is this in decimal? What is this in hexadecimal? Now suppose that you flip the MSB. What do the decimal and hexadecimal change to? Suppose that instead you flip the LSB. What do the decimal and hexadecimal change to?

Decimal: 1\*26+ 1\* 20 = 65 d 1 point

Hexadecimal: 0100 0001 = 41 h 1 point

MSB: 1000001 flip

0000001

Decimal: 0000001 = **1d 0.5 point**

Hexadecimal: 0000 0001 = **1 h**  0.5 point

LSB: 1000001 flip

1000000

Decimal: 1000000 =1 \* 26 = 64d 0.5 point

Hexadecimal: 0100 0000 = 40 h 0.5 point

**Notice: it is ok if the answer has no d or h.**

1. What is the result of 10010101 AND 00111100?

10010101

And 00111100

00010100

1. What is the result of 10010101 OR 00111100 ?

10010101

OR 00111100

10111101

1. The NOT operator is a UNARY operator (i.e. it acts on one variable or expressions)

**Similar answer will be ok.**

1. What is the result of NOT 100101001?

011010110