In-Class Exam #1 Review Questions ….

How many bytes are in a **terabyte**? _____

Convert **0101 0110** binary to decimal _____

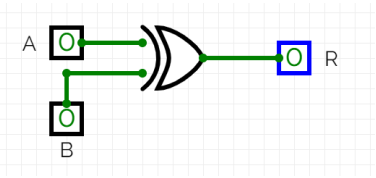
Convert **51** decimal to binary _____

Convert **2A** hexadecimal to decimal _____

Convert **2A** hexadecimal to binary _____

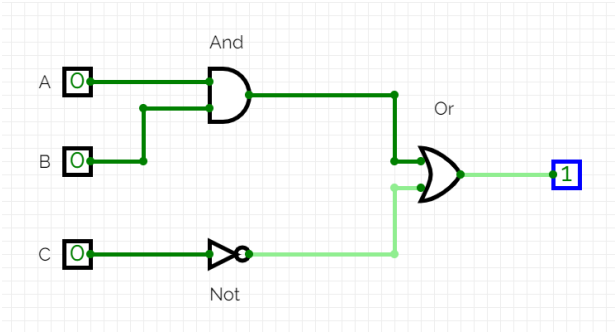
Convert **0101 0110** binary to hexadecimal _____

Complete the truth table for an XOR gate



A	B	R
0	0	0
0	1	
1	0	
1	1	

Complete the truth table for the following circuit



A	B	C	R
0	0	0	1
0	0	1	
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	
1	1	1	

Given A = 65 = 0100 0001, Decode the following …

0100 0110 **0100 0001** **0100 0100**

In-Class Exam #1 Review Questions …. Sample Solutions

How many bytes are in a **terabyte**? **1,000,000,0000,0000**

Binary Model

Convert **0101 0110** binary to decimal **64 + 16 + 4 + 2 = 86 decimal**

128 64 32 16 8 4 2 1

Convert **51** decimal to binary **32 + 16 + 2 + 1 = 0011 0011 binary**

51 – **32** = 19
19 – **16** = 3
3 – **2** = 1
1 – **1** - 0

Convert **2A** hexadecimal to decimal **2 x 16 + A x 1 = 32 + 10 = 42 decimal**

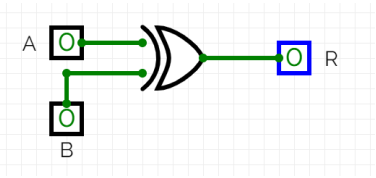
Hex Model

256 16 1

Convert **2A** hexadecimal to binary **2 = 0010 A = 1010 => 0010 1010 binary**

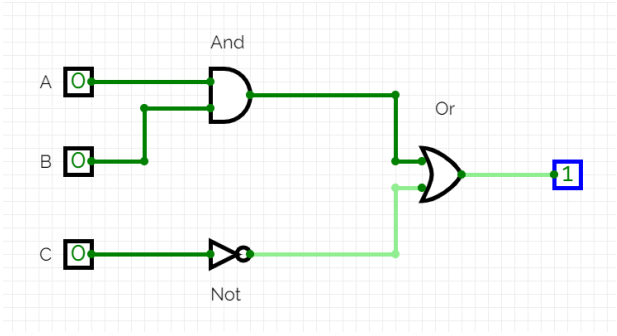
Convert **0101 0110** binary to hexadecimal **0101 = 5 0110 = 6 => 56 hex**

Complete the truth table for an XOR gate



A	B	R
0	0	0
0	1	**1**
1	0	**1**
1	1	**0**

Complete the truth table for the following circuit



A	B	C	R
0	0	0	1
0	0	1	**0**
0	1	0	**1**
0	1	1	**0**
1	0	0	**1**
1	0	1	**0**
1	1	0	**1**
1	1	1	**1**

Note: when C is 0 it goes through NOT which turns into a 1 going into OR making R a 1

Given A = 65 = 0100 0001, Decode the following …

A = 65, **B=66, C=67, D=68, E=69, F=70**

70 (F) 65 (A) 68 (D) = FAD

0100 0110 0100 0001 0100 0100