## Peer Instruction \#4: Logic and State Machines

What will happen to the output of the gate shown below when Input1 is 1 and Input 2 is 1 ?

A. Connected to ground (0)
B. Connected to power (1)
C. Connected to both (!)
D. Disconnected (x)
E. None of the above

Gates


What is the column of the truth table for the Output signal, in binary order for Input1 and Input 0 of $00,01,10,11$ ?

A. $0,1,1,0$
B. $1,0,0,1$
C. $1,1,1,0$
D. $0,0,0,1$
E. None of the above

Combinational
Logjic

Which output signal is asserted for all possible values for for Input1 (most significant) and Input 0 (least significant) in binary order 00, 01, 10, 11?

A. $W, X, Y, Z$
B. $X, W, Z, Y$
C. $Y, Z, W, X$
D. $X, Z, W, Y$
E. None of the above

Combinational
Logic


After RESET, which state will the machine shown below end up in if the inputs are 1, 0, 1, 1, 1, 0, 1

A. $S_{0}$
B. $\mathrm{S}_{1}$
C. $\mathrm{S}_{2}$
D. None of the above

## State Machinnes

# Will the following C program segment print the array elements in order, separated by colons, i.e. "6:7:8"? 

int array[3] $=\{6,7,8\} ; \quad$ A. Yes
printf("\%d:", array[0]); B. No
printf("\%d:", *(\&array[1])); C. Will not compile
printf("\%d\n", *(array+2)); D. Hard to say!

Aprays and
Pointers

## Are lines 1 and 2 functionally equivalent to lines 3 and 4 in the program shown below?

1: int array[3];
2: *array++ = 7; *array++ = 8; *array++ = 9;
3: int *other = (int *) malloc (3 * sizeof(int));
4: other[0] = 7; other[1] = 8; other[2] = 9;

Arrays and Pointers
A. Yes B. No C. Almost

