

CS-341 Lecture 12

March 16, 2000

Types of Gates

- Buffer, Inverter
 - One input, one output
 - Buffers are useful when you need a restorer, but no combiner.
- AND, OR, XOR
 - Two or more inputs, one output.
 - XOR can be constructed from AND, OR, and Inverters.
- NAND, NOR, XNOR
 - Two or more inputs, one output.
 - NAND and NOR are universal; all of the other gate types can be built using any one of these types.

Boolean Functions

- Sixteen functions of two variables.
 - Each 4-bit number corresponds to the output column of a truth table of two variables

0000	Null	1000	NOR
0001	AND	1001	Equivalence
0010	Inhibition	1010	Complement
0011	Transfer	1011	Implication
0100	Inhibition	1100	Complement
0101	Transfer	1101	Implication
0110	Exclusive OR	1110	NAND
0111	OR	1111	Identity

Homework 6

- Exercises 1-6 at the end of Chapter 3.
- Due Tuesday, March 20.