Chapter 1 - An Overview of VLSI

VLSI - Very Large Scale Integration

2/10^6 gates/chip

chip - cm^2 of Si

MILLIONS OF ELEMENTS

HIERARCHY:

Top Level \rightarrow System Specifications

\rightarrow High Level Model

Hardware Design Language (HDL)

\rightarrow Logic Synthesis

Bottom Level \rightarrow Circuit Design

\rightarrow Manufacturing Marketing
"CHIP TYPES"

- FULL CUSTOM DESIGN
- ASIC "Application Specific Integrated Circuit"
- SEMI CUSTOM DESIGN

**Advances in VLSI**

Moore’s Law
- Every 18 months, transistor count doubles

Assigned Reading Sections 2.1-2.2

State DeMorgan’s Theorem