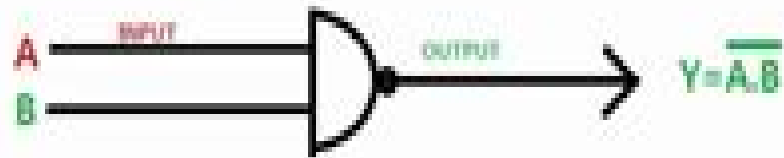


NAND GATE

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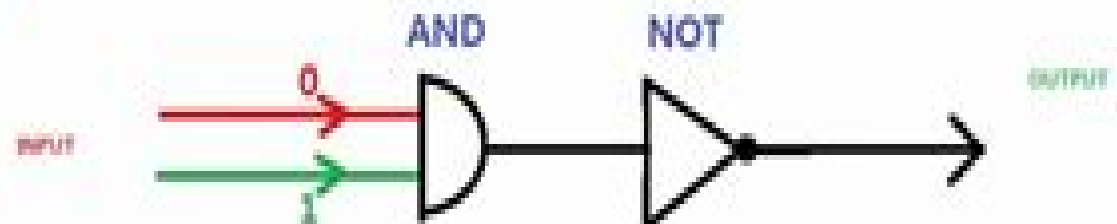


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A	B	$Y = \overline{A.B}$
0	0	1
0	1	1
1	0	1
1	1	0

1 = ON

0 = OFF



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Linda Null, Julia Lobur



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Foundation of Digital Electronics and Logic Design Subir Kumar Sarkar, Asish Kumar De, Souvik Sarkar, 2014-12-10 This book focuses on the basic principles of digital electronics and logic design. It is designed as a textbook for undergraduate students of electronics electrical engineering computer science physics and information technology. The text covers the syllabi of several Indian and foreign universities. It depicts the comprehensive resources.

Digital Design Using VHDL William J. Dally, R. Curtis Harting, Tor M. Aamodt, 2016 Provides students with a system level perspective and the tools they need to understand analyze and design complete digital systems using VHDL. It goes beyond the design of simple combinational and sequential modules to show how such modules are used to build complete systems reflecting digital design in the real world.

Foundations of Digital Logic Design Gideon

Langholz, Abraham Kandel, Joe L. Mott, 1998 This text is intended for a first course in digital logic design at the sophomore or junior level for electrical engineering computer engineering and computer science programs as well as for a number of other disciplines such as physics and mathematics The book can also be used for self study or for review by practicing engineers and computer scientists not intimately familiar with the subject After completing this text the student should be prepared for a second advanced course in digital design switching and automata theory microprocessors or computer organization

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Sequential Logic and Verilog HDL Fundamentals Joseph Cavanagh, 2017-12-19 Sequential Logic and Verilog HDL Fundamentals discusses the analysis and synthesis of synchronous and asynchronous sequential machines These machines are implemented using Verilog Hardware Description Language HDL in accordance with the Institute of Electrical and Electronics Engineers IEEE Standard 1364 1995 The book concentrates on sequential logic design with a focus on the design of various Verilog HDL projects Emphasis is placed on structured and rigorous design principles that can be applied to practical applications Each step of the analysis and synthesis procedures is clearly delineated Each method that is presented is expounded in sufficient detail with accompanying examples Many analysis and synthesis examples use mixed logic symbols incorporating both positive and negative input logic gates for NAND not AND and NOR not OR logic while other examples utilize only positive input logic gates The use of mixed logic parallels the use of these symbols in the industry The book is intended to be a tutorial and as such is comprehensive and self contained All designs are carried through to completion nothing is left unfinished or partially designed Each chapter contains numerous problems of varying complexity to be designed by the reader using Verilog HDL design techniques The Verilog HDL designs include the design module the test bench module that tests the design for correct functionality the outputs obtained from the test bench and the waveforms obtained from the test bench Sequential Logic and Verilog HDL Fundamentals presents Verilog HDL with numerous design examples to help the reader thoroughly understand this popular hardware description language The book is designed for

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Rameshkumar, PREFACE OF THE BOOK This book is extensively designed for the third semester EEE EIE students as per Anna university syllabus R 2013 The following chapters constitute the following units Chapter 1 9 covers Unit 1 Chapter 2

and 3 covers Unit 2 Chapter 4 and 5 covers Unit 3 Chapter 6 and 7 covers Unit 4 Chapter 8 VHDL Unit 5 CHAPTER 1 Introduces the Number System binary arithmetic and codes CHAPTER 2 Deals with Boolean algebra simplification using Boolean theorems K map method Quine McCluskey method logic gates implementation of switching function using basic Logical Gates and Universal Gates CHAPTER 3 Describes the combinational circuits like Adder Subtractor Multiplier Divider magnitude comparator encoder decoder code converters Multiplexer and Demultiplexer CHAPTER 4 Describes with Latches Flip Flops Registers and Counters CHAPTER 5 Concentrates on the Analysis as well as design of synchronous sequential circuits Design of synchronous counters sequence generator and Sequence detector CHAPTER 6 Concentrates the Design as well as Analysis of Fundamental Mode circuits Pulse mode Circuits Hazard Free Circuits ASM Chart and Design of Asynchronous counters CHAPTER 7 Discussion on memory devices which includes ROM RAM PLA PAL Sequential logic devices and ASIC CHAPTER 8 The chapter concentrates on the design fundamental building blocks Data types operates subprograms packages compilation process used for VHDL It discusses on Finite state machine as an important tool for designing logic level state machines The chapter also discusses register transform level designing and test benches usage in stimulation of the state logic machines CHAPTER 9 Concentrate on the comparison operation and characteristics of RTL DTL TTL ECL and MOS families We have taken enough care to present the definitions and statements of basic laws and theorems problems with simple steps to make the students familiar with the fundamentals of Digital Design *The Essentials of*

Computer Organization and Architecture Linda Null, Julia Lobur, 2014-02-17 In its fourth edition this book focuses on real world examples and practical applications and encourages students to develop a big picture understanding of how essential organization and architecture concepts are applied in the computing world In addition to direct correlation with the ACM IEEE CS2013 guidelines for computer organization and architecture the text exposes readers to the inner workings of a modern digital computer through an integrated presentation of fundamental concepts and principles It includes the most up

to the minute data and resources available and reflects current technologies including tablets and cloud computing All new exercises expanded discussions and feature boxes in every chapter implement even more real world applications and current data and many chapters include all new examples **Introduction to Computer Organization** Robert G.

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Herbert Taub,Donald L. Schilling,1977 Table of Contents 1 Electronic Devices2 Operational Amplifiers and Comparators3 Logic Circuits4 Resistor Transistor Logic and Integrated Injunction Logic5 Diode Transistor Logic6 Transistor Transistor Logic7 Emitter Coupled Logic8 MOS Gates9 Flip Flops10 Registers and Counters11 Arithmetic Operations12 Semiconductor For Memories13 Analog Switches14 Analog to Digital Conversions15 Timing Circuits *Verilog HDL Design Examples*

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Digital Principles and Logic Design Techniques Arijit Saha, Nilotpal Manna, 2013-03

Digital Electronics Dr. P. Kannan, Mrs. M. Saraswathy, 2018-10-01 This book is extensively designed for the third semester ECE students as per Anna university syllabus R 2013 The following chapters constitute the following units Chapter 1 2 and Unit 1 Chapter 3 covers Unit 2 Chapter 4 and 5 covers Unit 3 Chapter 6 covers Unit 4 Chapter 7 covers Unit 5 Chapter 8 covers Unit 5

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