Dr. SNS RAJALAKSHMI COLLEGE OF ARTS & SCIENCE (Autonomous)
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(Recognized by UGC, Approved by AICTE, New Delhi and
Affiliated to Bharathiar University, Coimbatore)

DEPARTMENT OF GRAPHIC & CREATIVE DESIGN AND DATA ANALYTICS

COURSE NAME : COMPUTER SYSTEM ARCHITECTURE (23UCU402)

I YEAR /I SEMESTER

Unit II- LOGICAL GATES

Topic 1: Introduction- Block Diagram

Block diagram

✓A block diagram is a specialized, high-level flowchart used in engineering.

✓It is used to design new systems or to describe and improve existing ones.

✓Its structure provides a high-level overview of major system components, key process participants, and important working relationships.

Types and Uses of Block Diagrams

- A block diagram provides a quick, high-level view of a system to rapidly identify points of interest or trouble spots.
- A block diagram will not show every wire and switch in detail, that's the job of a circuit diagram.
- A block diagram is especially focused on the input and output of a system.
- It cares less about what happens getting from input to output.
- This principle is referred to as black box in engineering.

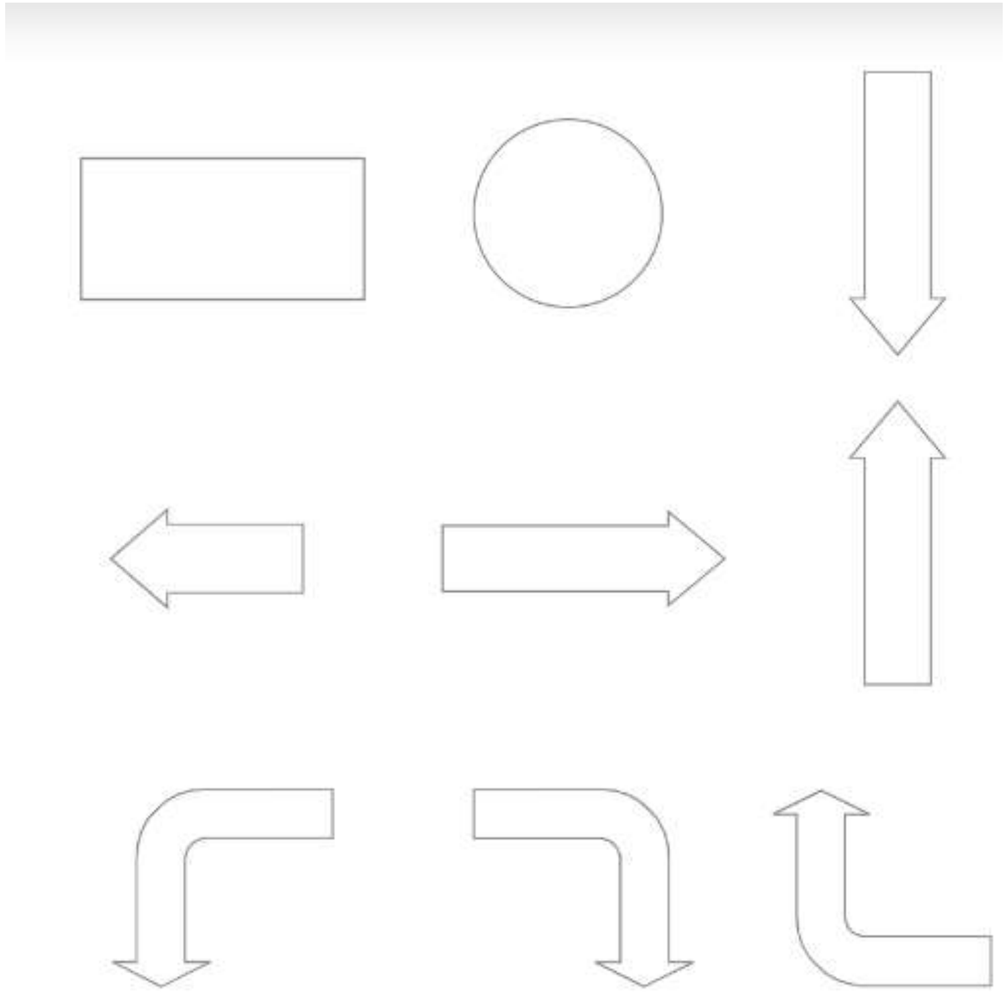
How to Make a Block Diagram

- Block diagrams are made similar to flowcharts.
- You will want to create blocks, often represented by rectangular shapes, that represent important points of interest in the system from input to output.
- Lines connecting the blocks will show the relationship between these components.
- In SmartDraw, you'll want to start with a block diagram template that already has the relevant library of block diagram shapes docked.
- Adding, moving, and deleting shapes is easy in just a few key strokes or drag-and-drop. SmartDraw's block diagram tool will help build your diagram automatically.

Symbols Used in Block Diagrams

- ✓ Block diagrams use very basic geometric shapes: boxes and circles.
- ✓ The principal parts and functions are represented by blocks connected by straight and segmented lines illustrating relationships.
- ✓ When block diagrams are used in electrical engineering, the arrows connecting components represent the direction of signal flow through the system.
- ✓ Whatever any specific block represents should be written on the inside of that block.
- ✓ A block diagram can also be drawn in increasing detail if analysis requires it.
- ✓ Feel free to add as little or as much detail as you want using more specific electrical schematic symbols.

Symbols Used in Block Diagrams



Block Diagram: Best Practices

- **Identify the system.** Determine the system to be illustrated. Define components, inputs, and outputs.
- **Create and label the diagram.** Add a symbol for each component of the system, connecting them with arrows to indicate flow. Also, label each block so that it is easily identified.
- **Indicate input and output.** Label the input that activates a block, and label that output that ends the block.
- **Verify accuracy.** Consult with all stakeholders to verify accuracy.

References

1.M.Morris Mano, “Computer System Architecture” 3rd Edition, Prentice Hall of India ,2000, ISBN-10: 0131663631

2. V.K. Puri, —DIGITAL ELECTRONICS CIRCUITS AND SYSTEMS” McGraw Hill Education (1 July 2017). ISBN-10: 9780074633175 , ISBN-13: 978-0074633175

3.William Stallings, “Computer Organization and Architecture, Designing for Performance” PHI/ Pearson Education North Asia Ltd., 10th Edition 2016, ISBN 978-0- 13-410161-3 — ISBN 0-13-410161-8.

Thank You