9 Lecture - CS302

Important Subjective

1. What is Boolean algebra?

Answer: Boolean algebra is a branch of mathematics that deals with logical operations and binary variables.

2. What are the basic logical operations in Boolean algebra?

Answer: The basic logical operations in Boolean algebra are AND, OR, and NOT.

3. What is logic simplification?

Answer: Logic simplification is the process of reducing the complexity of a logical expression or circuit by using laws of Boolean algebra and various simplification techniques.

4. What is DeMorgan's law?

Answer: DeMorgan's law states that the complement of the product of two variables is equal to the sum of the complements of the variables.

5. What is a truth table?

Answer: A truth table is a table that shows the output of a logical expression for all possible input combinations.

6. What is a Karnaugh map?

Answer: A Karnaugh map is a graphical tool used to simplify Boolean expressions by grouping adjacent cells in a truth table that have the same output value.

7. What is a prime implicant?

Answer: A prime implicant is a product term that cannot be simplified further by combining it with other product terms.

8. What is the Quine-McCluskey algorithm?

Answer: The Quine-McCluskey algorithm is a method used for logic simplification that involves finding all prime implicants of a Boolean expression and then selecting the minimum set of prime implicants that covers all the minterms.

9. What is the difference between a NAND and an AND gate?

Answer: The output of a NAND gate is the complement of the output of an AND gate.

10. What is the output of a NOT gate when the input is 1?

Answer: The output of a NOT gate when the input is 1 is 0.