# THEORY OF COMPUTATION

# WHAT IS COMPUTATION?

In this segment, we introduce the fundamental concept of computation. We'll explain what computation entails and its significance in computer science and mathematics. The segment sets the foundation for understanding how computation models are developed. **

# THEORETICAL MODELS OF COMPUTATION

This segment introduces the theoretical models used to understand computation. We will cover key models like Turing machines and finite automata, explaining their importance in the field. **

# COMPLEXITY THEORY

In this segment, we delve into complexity theory, exploring how we classify problems based on their computational resource demands. We'll discuss concepts like P, NP, and NP-completeness. **

# AUTOMATA THEORY

This segment explores automata theory, a branch of computer science that focuses on abstract machines and the problems they can solve. We'll detail types like regular languages and context-free languages. **

# PRACTICAL APPLICATIONS AND FUTURE TRENDS

In our final segment, we discuss real-world applications of the theory of computation. We will also consider future trends in the field and how they will shape technology. **

# THANK YOU 🙏

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