



Real-Life Implementation of Algorithms in Computer Science

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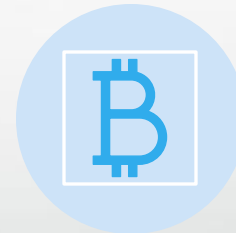
WHAT ARE
ALGORITHMS?



EVERYDAY
APPLICATIONS OF
ALGORITHMS



ALGORITHMS IN
ARTIFICIAL
INTELLIGENCE



ALGORITHMS IN
CYBERSECURITY &
FINANCE



CONCLUSION &
FUTURE SCOPE

What Are Algorithms?

An algorithm is a set of well-defined instructions to solve a specific problem or perform a task.


Key Characteristics:

- Input & Output
- Definiteness
- Finiteness
- Effectiveness

Why They Matter:

Algorithms are the backbone of all computer applications, from mobile apps to space exploration systems.

Everyday Applications of Algorithms



Search
Engines

E-
commerce

Social
Media

Navigation
Apps

Algorithms in Artificial Intelligence

Machine Learning Algorithms:

- Decision Trees, Neural Networks, Support Vector Machines for predictions and classifications.

Real-Life Use Cases:

- Self-driving cars (Path planning, Object detection)
- ChatGPT (Natural Language Processing)
- Facial Recognition (Image classification algorithms)

Algorithms in Cybersecurity & Finance

Cybersecurity

- Encryption algorithms (AES, RSA) protect sensitive data.

Finance

- Trading algorithms make real-time stock trades.
- Fraud detection uses anomaly detection algorithms.

Banking Apps

- Use authentication algorithms for secure user verification.

Conclusion & Future Scope

Why It Matters

- Algorithms automate decision-making, enhance efficiency, and solve complex real-world problems.

Future Trends

- Quantum algorithms
- Ethical AI algorithms
- Energy-efficient algorithms

Quote

- "Algorithms are the engines that run the digital world."





Thank You