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Set Theory

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Set theory is a branch of mathematics that deals with **collections of objects**. These collections are called **sets**. A set is simply a group of distinct things, like numbers, letters, or even everyday objects, that are grouped based on some common property.

- A set is a well-defined collection of distinct objects. These objects are called **elements** or **members** of the set. For example:
 - A set of fruits: {apple, banana, orange}
 - A set of numbers: {1, 2, 3, 4}
- **Notation:** Sets are written using curly braces {}.
 - Example: {2, 4, 6} is a set of even numbers.
- **Membership:** If something is in a set, we say it is a **member** of the set, denoted by \in . If not, we use \notin .
 - Example: In the set {1, 2, 3}, $2 \in \{1, 2, 3\}$ but $5 \notin \{1, 2, 3\}$.

Some examples of sets include:



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Got It !



Key Concepts in Set Theory

This section introduces the basics of Set Theory, helping you understand key concepts like types of sets, set operations, and important formulas through clear examples and symbols.

- Set in Maths
- [Representation of Sets](#)
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 - [Infinite Set](#)
 - [Equal Sets](#)
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 - [Universal Set](#)
 - [Disjoint Sets](#)
- [Operations on Sets](#)
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Advanced Topics of Set Theory

This part covers advanced Set Theory concepts like Cartesian products, relations, and functions, helping you learn how sets connect and interact in more complex ways.

- [Cartesian Product of Set](#)
- [Relation](#)
- [Functions](#)
 - [Types of Functions](#)

Practice for Set Theory

This section offers solved questions, quizzes, and practice problems to help you strengthen your understanding of Set Theory and master set operations.

- [Set Theory Solved Questions](#)
- [Set Theory - Quiz](#)
- [Practice Operation on Set](#)

Program of Set Theory

This section shows how to work with sets in different programming languages like C++, Python, C#, and JavaScript, using built-in set data structures and operations.

- [Set in C++](#)
- [Unordered Set in C++](#)
- [Multiset in C++](#)
- [Set in Python](#)
- [Set in C#](#)
- [Set in JavaScript](#)

Standard Problems Associated with Set Data Structure

This section covers common set-based problems in data structures

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