

COURSE HANDOUT

Course Code	ACSC13
Course Name	Design and Analysis of Algorithms
Class / Semester	IV SEM
Section	A-SECTION
Name of the Department	CSE-CYBER SECURITY
Employee ID	IARE11023
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Topic Covered	Analysis of Algorithms
Course Outcome/s	Analyse the performance of an algorithm
Handout Number	5
Date	25 March, 2023

Content about topic covered: Performance Analysis of Algorithms

Performance Analysis of Algorithms

1. Algorithm performance can be evaluated for the purpose to determine an algorithm's efficiency.
2. By calculating the amount of "time and space" is needed, we can evaluate an algorithm's performance.

Here, we focus to determine the time complexity and space complexity for the purpose of performance analysis of an algorithm.

Performance evaluation can be divided into two major phases.

Phase 1: Performance Analysis with Machine Independent

- i. **Space Complexity** - The amount of memory an algorithm requires to run is referred to as its space complexity.
- ii. **Time Complexity** - The amount of computer time required to complete an algorithm is known as its time complexity.

Phase 2: Performance Measurement with Machine Dependent

Measure the performance of an algorithm in terms of space and time value with reference of system requirements. Time and space values are varied for the same algorithm with different system configurations.