

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	Time complexity of an algorithm
Course Outcome/s	Analyse the time complexity of an algorithm.
Handout Number	10
Date	6 April, 2023

Content about topic covered: Time complexity of an Algorithm

Time complexity:

The time complexity of an algorithm is the amount of computer time it needs to run to completion.

The time $T(P)$ taken by a program P is the sum of the compile time and the run (or execution)time. The compile time does not depend on the instance characteristics.

Therefore, the time complexity of an algorithm is determined by the number of steps it requires to compute the function for which it was constructed.

There are two methods we can figure out how many steps a program needs to take in order to solve a specific problem.

1. Introduction of global variable called count.
2. To build a table in which we list the total number of steps contributed by each statement.