

Modern Education Society's
Wadia College of Engineering, Pune

NAME OF STUDENT:	CLASS:
SEMESTER/YEAR:	ROLL NO:
DATE OF PERFORMANCE:	DATE OF SUBMISSION:
EXAMINED BY:	EXPERIMENT NO: LP-III(DAA)-01

TITLE: Fibonacci Numbers

AIM: Write a non-recursive and recursive program to calculate Fibonacci numbers and analyze their time and space complexity.

OBJECTIVES:

1. To find Fibonacci Number
2. Analyse time and space complexity

PER-REQUISITES:

1. Knowledge of programming language.
2. Knowledge of Time and space complexity

THEORY:

The Fibonacci numbers or Fibonacci series are the numbers in the following integer sequence:
0,1,1,2,3,5,8,13,21,....

By definition, the first two numbers in the Fibonacci sequence are 0 and 1, and each subsequent number is the sum of the previous two. In mathematical terms, the sequence F_n of Fibonacci numbers is defined by the recurrence relation $F_n = F_{n-1} + F_{n-2}$

ALGORITHM:-

- 1) Read n, the number of terms to be generated
- 2) Term 1 = 0, term2 = 1.
- 3) Display term1, term2.
- 4) Vary the counter in a loop from 0 to (n – 1) incremented by 1.
- 5) Term = term1 + term2
- 6) Display term.
- 7) Term 1 = term2.
- 8) Term 2 = term →
- 9) End loop

CONCLUSION:-Implemented Fibonacci series successfully.

QUESTIONS FOR REVIEW:

- 1) What is Fibonacci series?
- 2) What is recursion?
- 3) Analyze time and space complexity of fibonacci series?