SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A+' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF AIML

23ITT101-PROGRAMMING IN C AND DATA STRUCTURES

I YEAR - II SEM

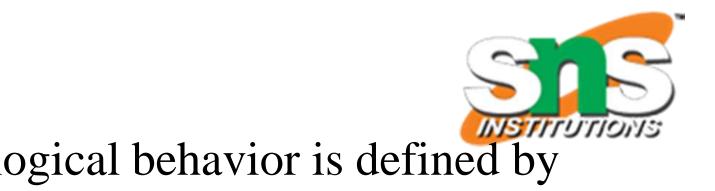## UNIT 3 – ARRAYS AND INTRODUCTION TO DATA STRUCTURES

TOPIC 6 – ADT

INTRODUCTION

➢ an ADT may be defined as a "class of objects whose logical behavior is defined by a set of values and a set of operations".

➢ Abstract data type are **like user defined data type** on which we can perform functions without knowing what is there inside the datatype and how the operations are performed on them.

➢ An abstract data type (**ADT**) is basically a logical description or a specification of components of the data and the operations that are allowed, that is independent of the implementation.

➢ ADTs are a **theoretical** concept in computer science, used in the **design** and **analysis** of algorithms, data structures, and software systems, and do not correspond to specific features of computer languages

Abstract Data Type

- ➢ (Abstract or Actual) Data Types have three properties:
  - ▪ Name
  - ▪ Possible Data Items
  - ▪ Operations on those data items

- ➢ The Data Type declaration goes in the .h (header) file – e.g., the class declaration

- ➢ The Data Type definitions go in the .cpp (implementation) file – e.g., the class definition