Abstract Data type:-

→ It is defined as a mathematical model of the data objects that make up a data type as well as operations that operate on these data objects.

for eg., Stack Data structure is defined by its operations 'push' and 'pop'. Both operations are defined from the top of the stack.

Queue is defined by its operations Insertion from rear and deletion from front end.

→ A useful tool for specifying the logical properties of a data type is the abstract datatype. fundamentally, a data type is a collection of values and set of operations on those values. That collection and

those operations form a mathematical construct that may be implemented using a particular hardware or software with data structure.

The term ADT refers to the basic mathematical concept that defines the data types by specifying the mathematical and logical properties of data type or structures.

ADT is a useful guideline to implementors and a useful tool to programmers who wish to use the data type commonly.

An ADT consists of two parts:-

- Value definition
- An operator definition

The value definition defines the collection of values for the ADT and consists of two parts:-

→ A definition clause

→ A condition clause

Immediately following the value definition comes the operator definition. Each operator is defined as an abstract function with three parts:

→ A header
→ the optional precondition
→ the post conditions.

The postcondition specifies what the operation does.