

Chapter --> 3

STACK

Why do we use data Structure?

A data structure is a way of storing organizing, accessing, and retrieving data in a computer.

Ex -> A string is a structure containing a sequence of elements where each element is a character. On the other hand, a list is a sequence data structure in which each element may be of different types.

Note -> Python lists are dynamic in nature i.e. they can grow/increase and shrink/ decreases in size/ number of items.

Data Type:- It defines the type of values we store

In (int) data type we cannot store decimal values.

Linear data structure:-

A data structure in which elements are organized in a sequence is called a linear data structure.

Every data structure has a specific way of insertion and deletion of data.

Stack:-

A stack is a linear sequence structure or a list of elements in which insertion and deletion can take place only at one end i.e. stack's top. The stack is based on LIFO (Last In First Out) which means the

> 1. Can of a Tennis ball

angles are worn on the wrist

Features of Stack:-

Stack provides only one end for entry and exit data.

Element can be accessed from the middle.

Top:- The end from which elements are added or removed is called Top of the Stack.

Stack performs two major operations.

PUSH:- When an element is inserted/added on top of the stack, it is called PUSH

operation.

2. POP:- When an element is deleted/ removed from the top of the stack, it is called POP operation.

--> The basic operations performed on the stack are;

1. Creating a stack
2. PUSH operation/ Adding Elements to a stack
3. Checking the status of stack
4. Pop operation/ Deleting elements form a stack
5. Traversal/ Displaying a stack.

TO KNOW HOW TO DO THIS SEE THE CODE OF THIS CHAPTER