

Data Structures in Java for Beginners

Agenda

- Data structure and types of data structure
- Arrays introduction
- Arrays implementation
- Advantages and Disadvantages of Arrays
- Stack introduction
- Stack implementation
- Advantages and Disadvantages of Stack
- Queue introduction
- Queue implementation
- Advantages and Disadvantages of Queue
- Linked List introduction
- Linked List implementation
- Advantages and Disadvantages of Linked List

Array implementation

Array implementation

A program implementing the following points:-

1. Create a one-dimensional integer array and insert a number starting from 1 to the maximum number until the end of the array. Access the numbers after inserting them and then display them as the output.
2. Create a two-dimensional integer array and insert a number starting from 1 to the maximum number that could be inserted till the end of the two-dimensional array. Access the numbers after inserting them and then display them as the output.
3. Implement search and sort operations on the above created two-dimensional array.

Stack implementation

Stack implementation

A program implementing the following points:-

1. Create a stack and implement it using the inbuilt classes and methods.
2. Access the elements of stack using Iterator method
3. Implement the following functions:-
 1. Push
 2. Pop
 3. Empty/isEmpty
 4. Peek
 5. Search
 6. Size
 7. sort

Queue implementation

Queue implementation

A program implementing the following points:-

1. Create a queue and implement it using classes and inbuilt methods.
2. Implement the following functions:-
 1. Enqueue
 2. Dequeue
 3. isEmpty
 4. Size
 5. Display

Linked List implementation

Linked List implementation

A program implementing the following points:-

1. Create a Linked List and implement it using concepts of inbuilt classes and methods.
2. Implement the following functions:-
 1. Insert at Beginning
 2. Insert at end of linked list
 3. Delete
 4. Display the contents of linked list
 5. Explore other method like addAll, contains and size

Summary

- Introduction to data structures and different types of data structure
- Arrays and it's different method's implementation in Java.
- Queue, Stack and Linked list concepts as well as their methods were implemented in java programming