Welcome to ineuron.ai

Mastering DSA with Python

Description:

This Python course on Data Structures and Algorithms covers data structures such as linked lists, stacks and queues, binary search trees, heaps, searching, and hashing. This course covers a variety of sorting algorithms, as well as their implementation and analysis. The following topics are covered with Python implementation in this Data Structures in Python course. Analysis of Algorithms, Big O notation, Time Complexity, Singly Linked List, Doubly linked list, Trees, Heaps, Hashing and Sorting algorithms.

Start Date:

Doubt Clear Time:

Course Time:

Features:

Course material

Course resources

On demand recorded videos

Practical exercises

Quizzes

Assignments

Course completion certificate

What we learn:

Problem Solving

Data Structure Introduction

Recursion in depth

Linked List in depth

Circular Linked List in Depth

Doubly Linked List in Depth

Stack and Queue

Binary Search Tree

Hashing

AVL Tree

HEAP

Sorting algorithms

Requirements:

System with Internet Connection

Interest to learn

Dedication

Instructor:

Name:

Hitesh Choudhary

Description:

I like to make videos related to code and tech in my free time. I also lead a few tech teams in startups, help in hiring talent for companies. I am also on a part time traveller, with 31 countries checked off so far!

>Introduction to DSA:

>>Why we need Data structures and algorithms

>>Time based approach

>>Concept of Big O and graphs

>>Data Structures and Algorithms HB

>Problem Solving:

>>Start with a challenge - reverse string

>>Reverse a string - solution

>>Interview approach to solve a problem

>>Classic interview steps for DSA problems

>Data Structure Introduction:

>>Memory process - Stack and Heap

>>Physical and logical data structures

>>Abstract Data Types - ADT

>Recursion in depth:

>>Introduction to recursion

>>Tracing the recursion tree

>>Trace tree assignment

>>Trace tree solution

>>Types of Recursion

>>Complex recursion tree

>>What is Factorial

>>Factorial program in Python

>>Fibonacci series THEORY

>>Fibonacci series and its version Python Code

>>What is Power Program

>>Power Program Python code

>>What is a Combination Program

>>Combination Program Python code

>>Classic Tower of Hanoi problem

>>Classic Tower of Hanoi Python code

>Linked List in depth:

>>Introduction to Linked List

>>Add value in linked list - cases

>>Push Append and insert in LinkedList - Python code

>>Deletion of linked list THEORY.

>>Deletion in linked list Python code

>>Delete complete linked list Python code

>>Count all nodes in linkedlistPython code

>>Reversing a linked list THEORY

>>Reversing a linked list Python code

>Circular Linked List in Depth:

>>Circular linked list THEORY

>>Circular Linked List push Python code

>>Traverse a circular linked list Python code

>>Deletion in circular linked list Python code

>>count nodes in circular linked list Python code

>>convert linked list to circular linked list Python code

>Doubly Linked List in Depth:

>>Theory for doubly linked list

>>Doubly linked list push Python code

>>Insert After in doubly linked list Python code

>>add to last in doubly linked list Python code

>>Traverse a doubly linked list Python code

>>Deleting a node in doubly linked list Python code

>Stack and Queue:

>>Stack - Push and Pop operation THEORY

>>Stack operations with Python code

>>Queue concept THEORY

>>Queue implementation in Python code

>>Circular queue THEORY

>>Circular queue Python code

>Binary Search Tree:

>>What is Binary Search tree and creation THEORY update

>>Insertion and Deletion in BST THEORY

>>InOrder Traversal of BST THEORY

>>Pre Order traversal in BST THEORY

>>Post order traversal in BST THEORY

>>Creating a Binary Search tree Python code

>>Insertion in BST Python code

>>deletion of key in BST Python code

>>inorder preorder and postorder traversal in BSTPython code

>Hashing:

>>What is Hashing THEORY

>>Hash chaining with linked list

>>Linear Hash Shifing

>>Square hash shifting

>AVL Tree:

>>What is AVL tree and height

>>Finding balance factor

>>Left Left and Right Right Rotation in AVL Tree

>>LR and RL rotation with 1 trick

>>Creating a AVL tree - Important

>>Deletion in AVL Tree.

>HEAP:

>>Heap - Max and min Heap

>>Insertion and deletion in HEAP

>Sorting algorithms:

>>Categories of sorts

>>Selection sort - Theory

>>Selection sort - Python Code

>>Bubble Sort - Theory

>>Bubble Sort - Python Code

>>Insertion sort - Theory

>>Insertion sort - Python Code

>>Quick Sort - Theory

>>Quick Sort - Theory part 2

>>Quick Sort - Python Code

>>Counting Sort - Theory

>>Merge Sort Theory

>>Merge sort Python code

>>Counting Sort - Python Code