Data Structures & Algorithms

Digital Assignment

Name: Saumyadeep Ganguly
Reg. NO: 24MDT0082

⇒ Introduction:

The "Algorithm Visualization" webpage from the University of San-Frasisco is a valuable educational resource for understanding the complex algorithms and its functionality. This platform provides the simplicity of this algorithms using animated motions in a interactive way, making the ~~cocept~~ concept understandable for students, educaters & researchers.

⇒ key Features:

i) Sorting Algorithms:

Sorting Algorithms are the elements in a specific order such as ascending or descending. The webpage shows step by step methods like Heap sort, merge sort, binary sort, Insertion sort and many more.

ii) Graph Algorithms:

Graph Algorithms helps ~~fin~~ to find path and connections between nodes. BFS algo, explore in leven by leved, whereas DFS dives deeps befor backtracking.

iii) Data structures:

There are many ways to store & organise data for efficient access. stack (LIFO), queues (FIFO), Linked list, binary search trees and heaps are used.

iv) Dynamic programming:

This technique solves complex problems by breaking them into overlapping subproblems. Floyd - Warshall finds Shortest paths between all node pairs, and the problem shortest terms to organisze value within a weight limit.

⇒ Educational Benifit:

This webpage enhances learning by offering visual demostrations instead of relying solely on textual explanations. Users can extract with the visualization, modifing inputs and observe reactives changes, which helps in developing a deeper understanding of algorithms.

⇒ Conclusion:

The "Algorithm visualization" webpage is a usefull tool for learning and teaching algorithms. It simplifies complex topics through interactive animations, making it an excellent supplement to textbooks & lectures. Whether for beginers or reduce learners, this resource provids valuable insights into algorithmic concepts in a clean and engaging manner.