

# Algorithm Analysis & Design

## Project proposal viva questionnaire

### The ALGO ADVENTURE

*Enjoy the beauty of algorithms!!*

#### Project description:

Creating a website using HTML,CSS and Javascript to learn how different algorithms work.

This website will give an overview for all the algorithms and visualisation for some such as sorting and searching algorithms.It will help everyone to understand how different algorithms work and deep understanding of algorithms such as searching and sorting.There will also be a **fun-quiz** as well.

Website will include:

- ❖ Overview
- ❖ Method
- ❖ Pseudo Code
- ❖ Working Principles
- ❖ Examples
- ❖ Practical Implementation
- ❖ Programming Examples



Algorithms included:

- Searching
  - Linear Search
  - Binary Search
- Sorting
  - Quick Sort
  - Bubble Sort
  - Merge Sort
  - Insertion Sort
  - Selection Sort
- Graphs
  - BFS
  - DFS
  - Floyd-Warshell(DP)
- Greedy Algorithms
  - Kruskal
  - Prism
- Dynamic Programming
  - Knapsack
  - Longest Subsequence
  - Fibonacci
- ★ Visualisers for Searching and Sorting.
- ★ Fun quiz

## Driving force for the project:

The aim of my project is to accomplish a good grasp on various algorithms. The main focus of my project will be on beginners who face difficulty implementing algorithms as there are newbies in the programming world.

We have learnt different algorithms such as sorting, searching but we often fail to understand the basic idea of a particular algorithm because we are unable to visualise how this actually works. From learning algorithms to implementing them is quite a sudden jump especially for a beginner.

When I started learning algorithms, I actually took a lot of time implementing them as I although grasp the concept easily but when it comes for their implementation I'm unable to proceed which algorithm should I use when and where. So, later I tried to understand by taking their real life implementations and visualizing them, as a result my interest developed in algorithms.

I always had a keen interest in visualising different scenarios.

For this project, I'm creating limited visualisers but in the near future I'll update my website on a regular basis and will add more and more visualisers along with easy implementation of algorithms. This will not only help beginners to develop their interest in this field but also for intermediate and advanced ones to revise and attempt fun-quizzes.

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