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| 1. Implement depth first search algorithm and Breadth First Search algorithm, Use an undirected graph and develop a recursive algorithm for searching all the vertices of a graph or tree data structure. |
| 1. Implement A star Algorithm for any game search problem. |
| 1. Implement Greedy search algorithm for any of the following application:   Dijkstra's Minimal Spanning Tree Algorithm |
| 1. Implement a solution for a Constraint Satisfaction Problem using Backtracking for n-queens problem. |
| 1. Develop an elementary Chatbot for any suitable customer interaction application. |
| 1. Write a Java/C/C++/Python program that contains a string (char pointer) with a value \Hello World’. The program should AND or and XOR each character in this string with 127 and display the result. |
| 1. Write a Java/C/C++/Python program to perform encryption and decryption using the method of Transposition technique. |
| 1. Write a Java/C/C++/Python program to implement DES algorithm.   **OR**  Calculate the message digest of a text using the MD5 algorithm in JAVA. |
| 1. Write a Java/C/C++/Python program to implement RSA algorithm. |
| 1. Write a program to implement the Diffie-Hellman Key Exchange mechanism using HTML and JavaScript. Consider the end user as one of the parties (Alice) and the JavaScript application as other party (bob). |