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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. |
| **2.** | Implement A Star Algorithm for any game search problem. |
| **3.** | Implement Greedy search algorithm for any one of the following application:   1. Selection Sort 2. Minimum Spanning Tree 3. Single-Source Shortest Path Problem 4. Job Scheduling Problem 5. Prim's Minimal Spanning Tree Algorithm 6. Kruskal's Minimal Spanning Tree Algorithm 7. Dijkstra's Minimal Spanning Tree Algorithm |
| **4.** | Implement a solution for a Constraint Satisfaction Problem using Branch and Bound and Backtracking for n-queens problem **or** a graph coloring problem |
| **5 .** | Develop an elementary catboat for any suitable customer interaction application. |
| **6.** | Implement any one of the following Expert System   1. Information management 2. Hospitals and medical facilities 3. Help desks management 4. Employee performance evaluation 5. Stock market trading 6. Airline scheduling and cargo schedules |
| **7.** | Creating an Application in SalesForce.com using Apex Programming Language.  (Scientific Calculator) |
| **8** | Creating an Application in SalesForce.com using Apex Programming Language.  (Currency converter) |
| **9** | Creating an Application in SalesForce.com using Apex Programming Language.  Custom Application of your choice) |
| **10** | Design and develop any custom Application using Sales Force Cloud. |
| **11** | Write a Java/C/C++/Python program to perform encryption and decryption using the method of  Transposition technique. |
| **12** | 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. |
| **13** | Write a Java/C/C++/Python program to implement AES Algorithm.  OR  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). |
| **14** | Write a Java/C/C++/Python program to implement RSA algorithm. |
| **15** | Develop a scene in Unity that includes:   1. A cube, plane and sphere, apply transformations on the 3 game objects. 2. Add a video and audio source. |
| **16** | Develop a scene in Unity that includes a cube, plane and sphere. Create a new material and texture separately for three Game objects. Change the color, material and texture of each Game object separately in the scene. Write a C# program in visual studio to change the color and  material/texture of the game objects dynamically on button click. |
| **17** | Develop and deploy a simple marker based AR app in which you have to write a C# program to  **OR**  play video on tracking a particular marker.  Develop and deploy an AR app, implement the following using Vuforia Engine developer portal:   1. Plane detection 2. Marker based Tracking (Create a database of objects to be tracked in Vuforia) 3. Object Tracking |