

Misconceptions

Module-6	
Misconception 1.	Tries are mostly advantageous in the context of English language words.
Correct Explanation	Tries exhibit versatility since they may be effectively used for any given collection of strings or sequences, irrespective of the specific language or alphabet applied.
Misconception 2.	Huffman Coding consistently decreases the data size.
Correct Explanation	The efficiency of Huffman Coding is dependent upon the frequency distribution of characters. In situations when the frequency of characters are almost equal, the level of compression achieved may not be substantial.
Misconception 3.	Graphs possess inherent cyclical properties.
Correct Explanation	Not all graphs possess cycles. Graphs may exhibit both cyclic and acyclic properties. A tree may be classified as an acyclic graph.
Misconception 4.	The graph traversal algorithms, Depth-First Search (DFS) and Breadth-First Search (BFS), are

	guaranteed to provide identical results.
Correct Explanation	Although DFS and BFS are both techniques used for traversing graphs, they vary in the sequence in which they investigate nodes. The Depth-First Search (DFS) algorithm delves deeply into the network, systematically exploring as far as feasible down a particular branch before retracing. In contrast, the Breadth-First Search (BFS) algorithm investigates nodes in a level-by-level manner.
Misconception 5.	Adjacency matrices are a more efficient solution for solving graph-related issues compared to adjacency lists.
Correct Explanation	The selection between adjacency matrices and adjacency lists is contingent upon the specific situation at hand and the inherent characteristics of the graph in question. In the case of graphs with a high density of edges, using an adjacency matrix might prove to be a more effective approach. Conversely, for graphs with a low density of edges, utilising an adjacency list can result in space savings and expedited traversal times.