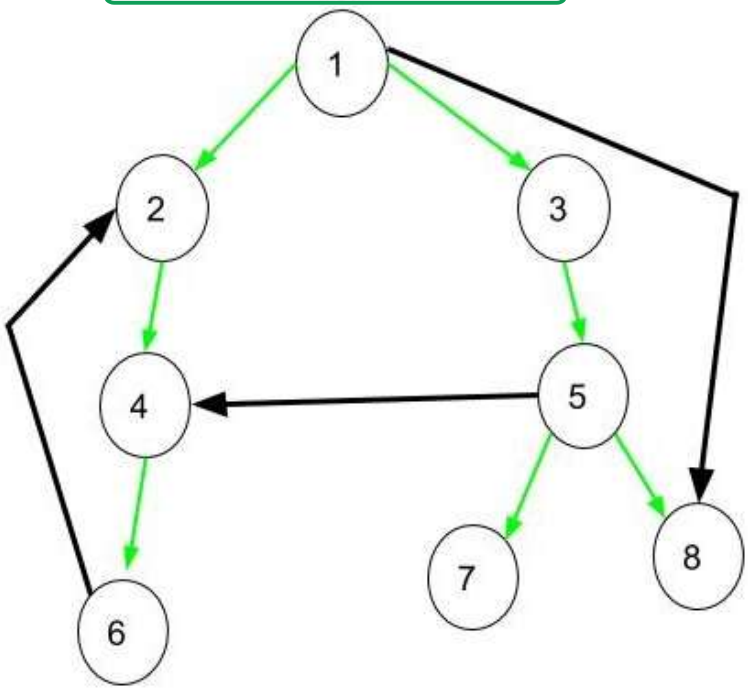
Tree, Back, Edge and Cross Edges in DFS of Graph

Consider a directed graph give 2 4 6 3 5 7 8. In below diagram if DFS is applied on this graph a ng green edges.



Tree Edge: It is an edge which is present in the tree obtained after applying DFS on the graph. All the Green edges are tree edges.

Forward Edge: It is an edge (u, v) such that v is descendant but not part of the DFS tree. Edge from **1 to 8** is a forward edge.

Back edge: It is an edge (u, v) such that v is ancestor of edge u but not part of DFS tree. Edge from **6 to 2** is a back edge. Presence of back edge indicates a cycle in directed graph.

Cross Edge: It is a edge which connects two node such that they do not have any ancestor and a descendant relationship between them. Edge from node **5 to 4** is cross edge.

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