Strongly Connected Components

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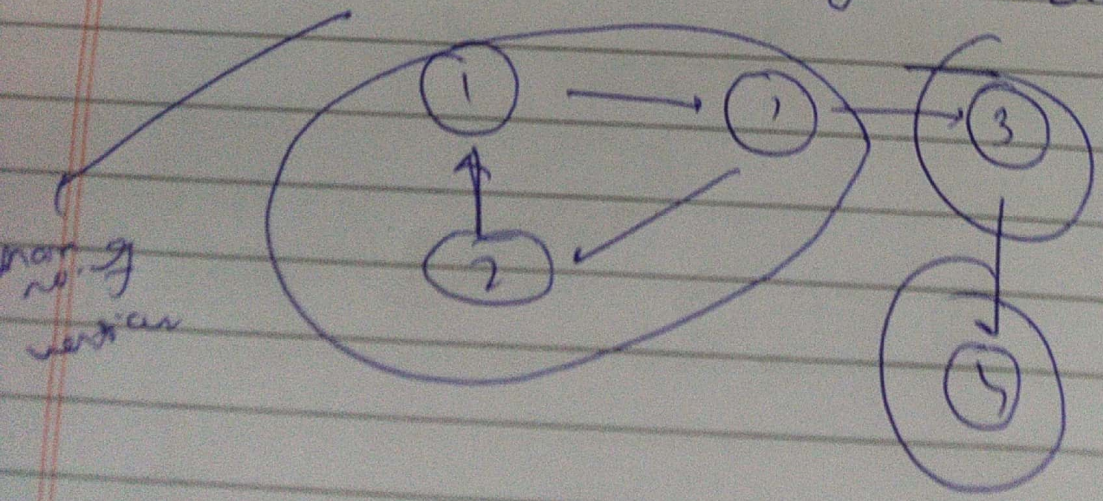
Present only in directed graphs

For undirected graph we use the term connected components

Defn: It is the set of vertices in which every set of vertices has a path between them.

A directed graph is a strongly connected graph if there is a path between all pairs of vertices. A strongly connected component (SCC) of a directed graph is a maximal strongly connected subgraph.



Linked List

(i) Singly linked list

Elements are not stored at contigious locations

Advantages

(i) dynamic size
(ii) Ease of insertion / deletion

Disadvantages

(i) Random access not allowed
(ii) Extra memory space for a pointer is required with each element of the list.
(iii) Not cache friendly.

(ii) Circular linked list

Nodes are connected to form a circle, there is no NULL at the end. A circular linked list can be singly or doubly linked.

Advantages

(i) Any node can be starting point
(ii) Useful for implementing queue.
(iii) Implementing fibonacci heap.
(iv) Useful for running multiple applications on a PC

(iii) Doubly linked list

Contains a previous pointer too.

Advantages

(i) Can be traversed in both forward and backward direction.
(ii) delete operation is more efficient
(iii) We can quickly insert a new node before a given node.

disadvantages

(i) Extra space of previous pointer.