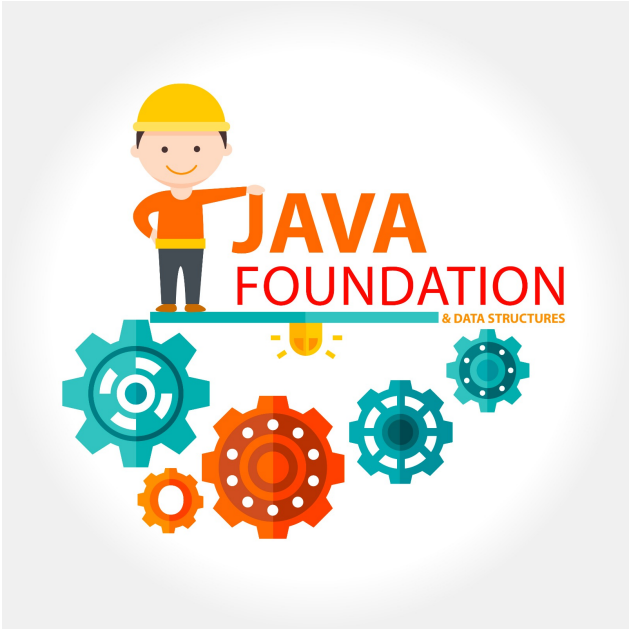
Nucleus

Java Foundation & Data Structures

Lecture 25 : Graphs

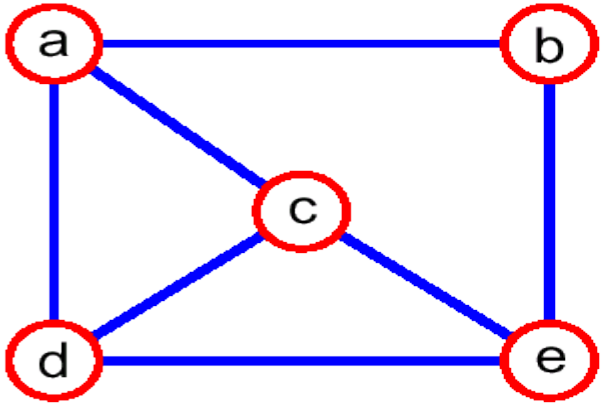


Saturday, 22 July 17

Doubts from Last Class ?

Graphs

Graphs



V= {a,b,c,d,e}

E=
{(a,b),(a,c),(a,d),
(b,e),(c,d),(c,e),
(d,e)}

Terminology

- Adjacent Vertices
- Degree
- Path
- Connected Graph
- Subgraph
- Connected Components
- Tree
- Forest
- Spanning Tree

Number of edges

- Complete Graph
- Connected Graph
- Tree

How to implement Graph?

- Edge List
- Adjacency lists
- Adjacency matrix

Searching in a Graph

How to Search through a Graph?

- Breadth First Search
- Depth First Search

Problems

- Implement isConnected for our graph
- Return all the connected components of the graph
- Check if a graph is Bipartite or not.

Some more Graph variations

- Directed Graphs
- Weighted Graphs

Thank you

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