C++ GRAPH PROCESSING LIBRARY

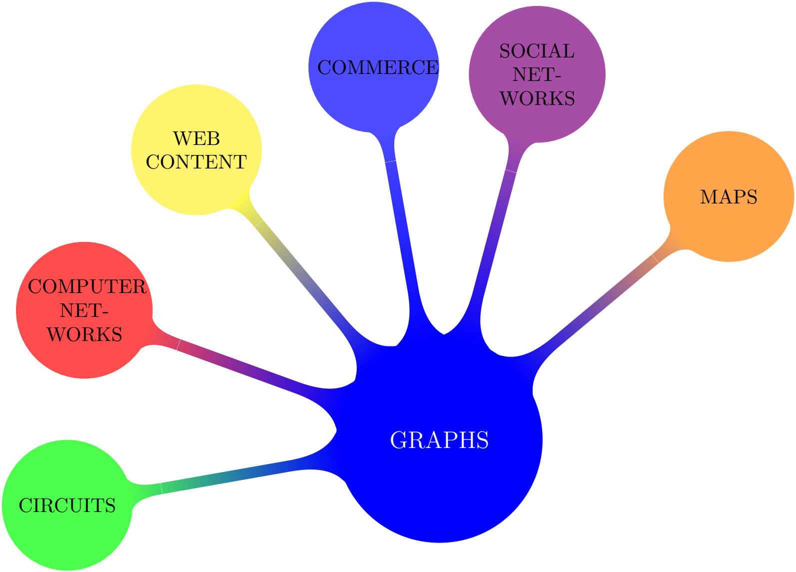
Estructuras abstractas de datos y algoritmos

Universidad de Costa Rica

10 Oct 2013

Outline

Introduction



GRAPHS

CIRCUITS

COMPUTER NETWORKS

WEB CONTENT

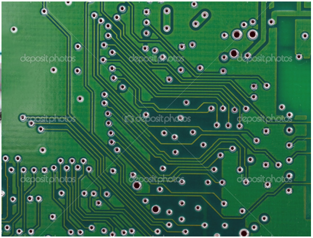
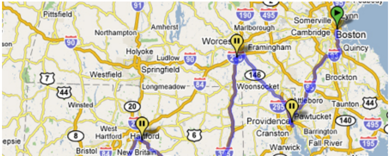
COMMERCE

SOCIAL NETWORKS

MAPS

Applications



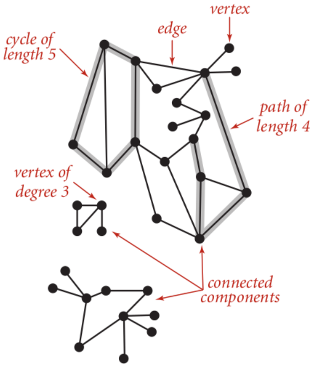




Definitions

Definition

A graph is a set of vertices and a collection of edges that each connect a pair of vertices.

- Vertex/Node
- Edge
- Path
- Cycle
- Connected - Unconnected Graph
- Length
- Tree, forest



Anatomy of a graph

Data Structures

1	2	4
2	1	3
3	2	4
4	1	3

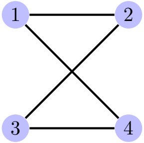


Figure 2: Adjacency List

	1	2	3	4
1	T	T	F	T
2	T	T	T	F
3	F	T	T	T
4	T	F	T	T

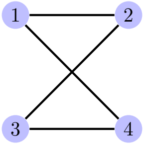
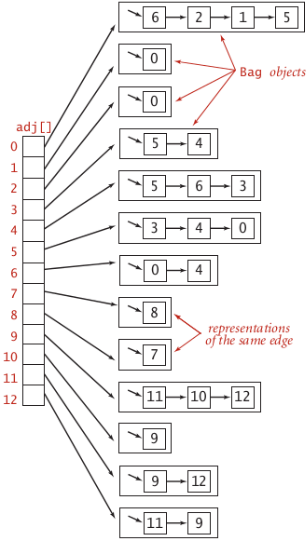


Figure 3: Adjacency Matrix



Definitions and applications

ALgorithm 1

- Use `tabular` for basic tables — see Table 1, for example.
- You can upload a figure (JPEG, PNG or PDF) using the files menu.
- To include it in your document, use the `includegraphics` command (see the comment below in the source code).

Item	Quantity
Widgets	42
Gadgets	13

Table 1: An example table.

Readable Mathematics