Separable Graphs

8/11/19

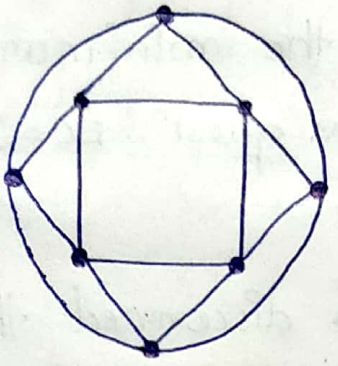
A graph is said to be separable graph if its VC = 1
In this graph a vertex whose removal disconnects the graph is called cut vertex / cut node / articulation point.

App

Given n stat's, that are to be connected by means of e lines (telephone lines, bat edges)

eg: Graph with n=8 & e=16

Solut^n → Construct a graph with max. edge connectivity & vertex connectivity



Max. VC of graph G with n vertices & e edges is integral part of $2e/n$., i.e.,

$$VC \leq EC \leq \frac{2e}{n}$$

$$\text{Max. } VC = \left[\frac{2e}{n}\right]$$

Combinatorial Graphs

- An abstract graph G can be defined as

  $G = (V, E, \psi)$

  where V = {objects}, E = {objects}, ψ → Mapping btw V & E

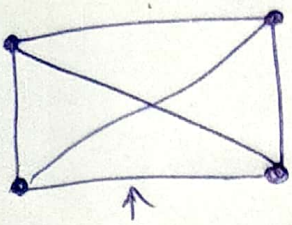
Geometric Graphs

- Pictorial representat^n of graph

Planar Graph

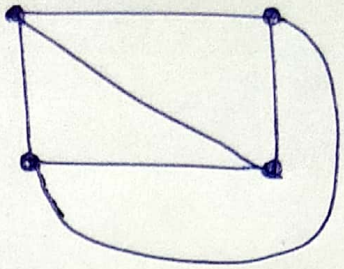
- It is planar if there exists some geometric representat^n of G which can be drawn on a plane such that no 2 of its edges intersect.
- If it cannot be drawn without crossover of edges, it is known as planar graph

Geometric



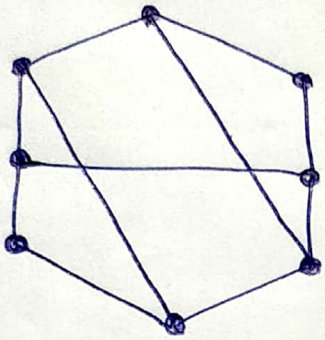
Planar graph

Plane (Planar)

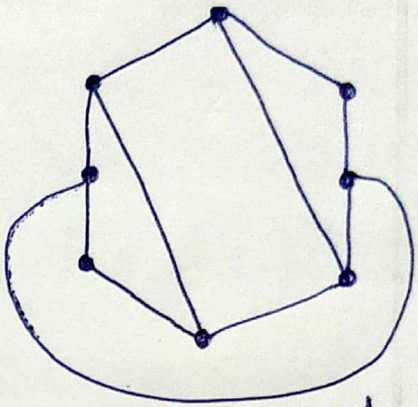


Plane/
Embedded
~~Planar~~
graph

- Geometric representation of planar graph on any surface is called embedding



Planar, but not plane



Plane graph