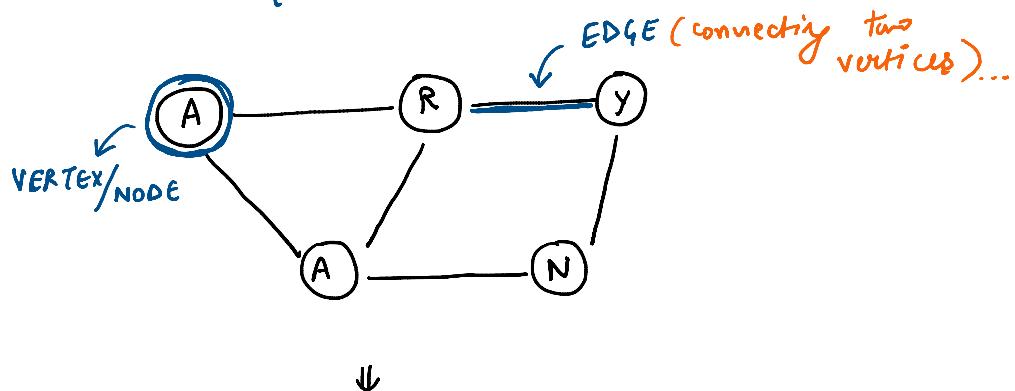


G-01 Graph Data Structure & Algo + Real Life Applications

26 March 2023 08:01 PM

GRAPH: A graph can be defined as a group of vertices AND edges that are used to connect these vertices.

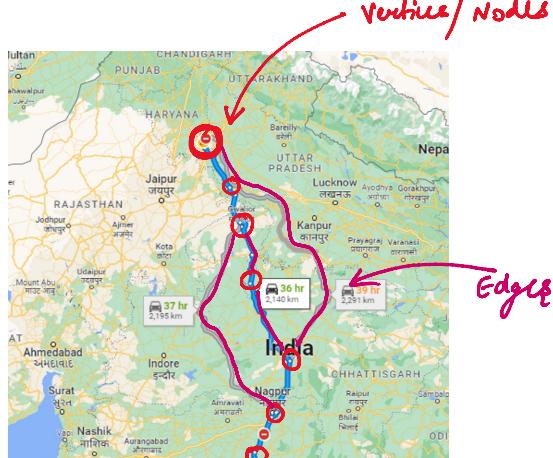


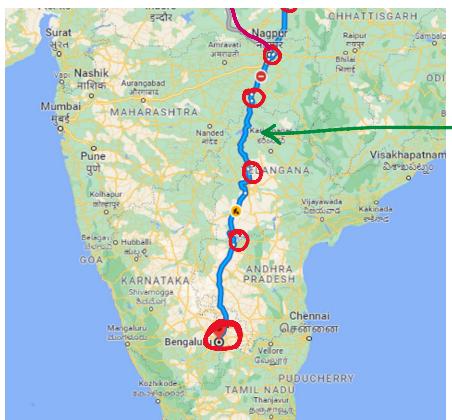
Graph $(V, E) \rightarrow$ 5 vertices (A, R, Y, A, N)

6 edges $(A, R) (N, Y)$
 $(R, Y) (A, N)$
 $(A, A) (A, R)$

Real / ^{Real} life use-case of Graphs : →

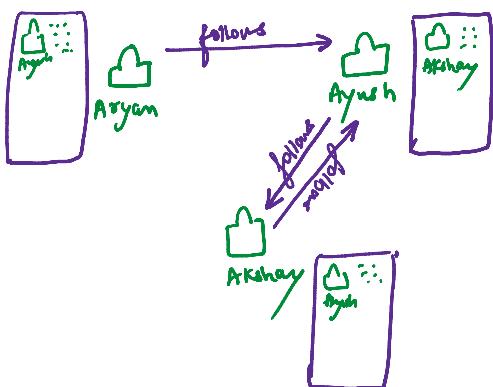
01. Shortest path in Google Maps → also used by FLIGHTS :-



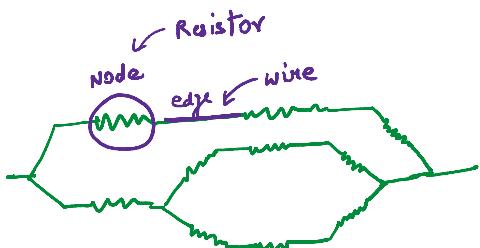


02. Social Networking sites

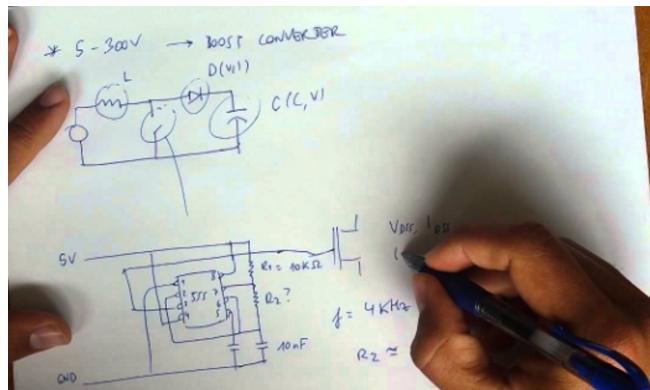
→ LinkedIn
→ Instagram
→ Twitter



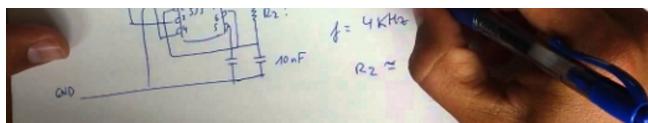
03. Circuit Designing :



Minimum length of wire
that can supply same

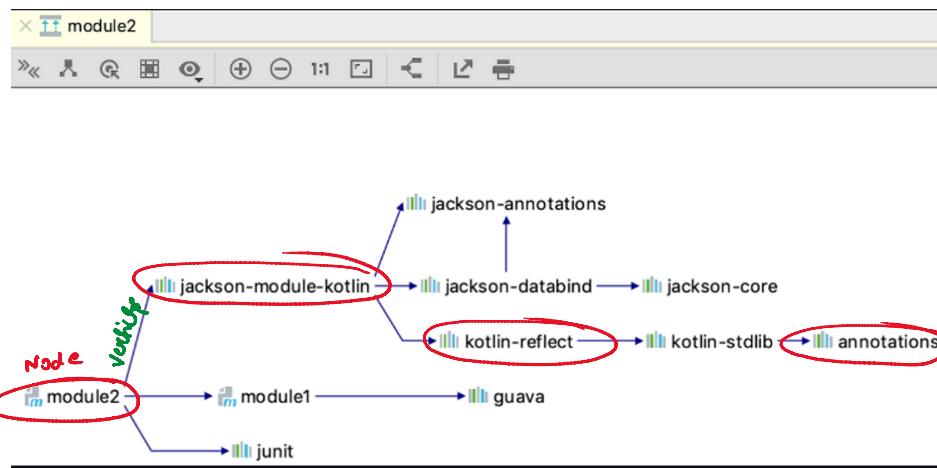


Minimum length of wires
that can supply same
current as above.

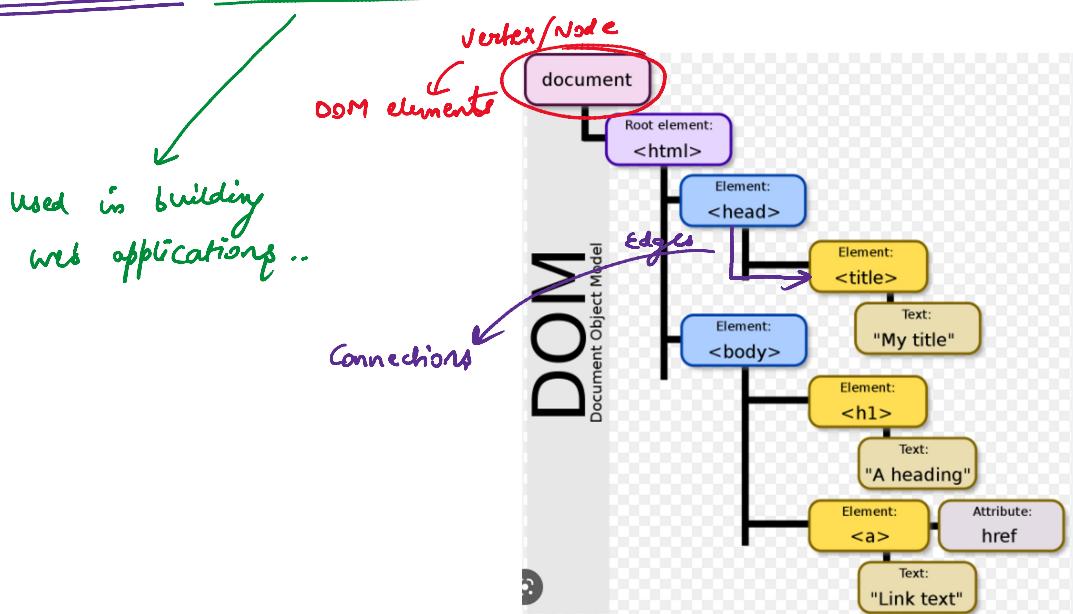


04. Resolving Dependencies

- One dependency can be installed only when previous one is installed.
↓
directed graph



05. Web Document (DOM Tree)

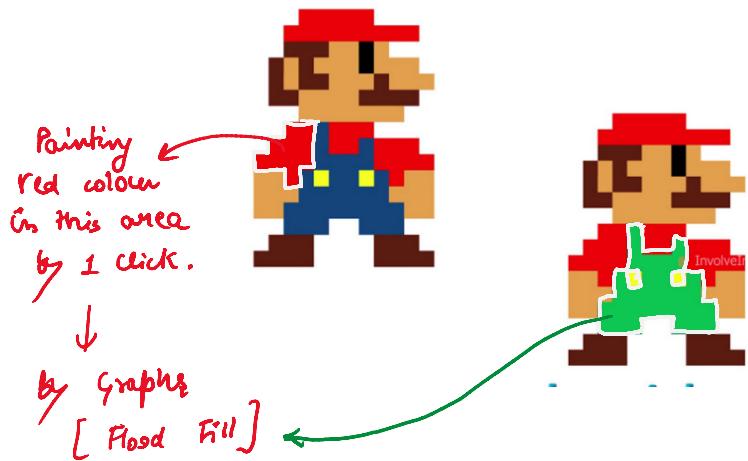


06. Paint Bucket Tool

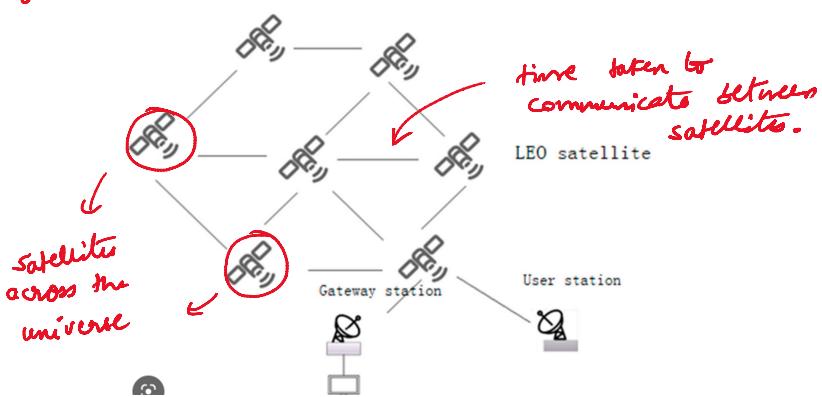
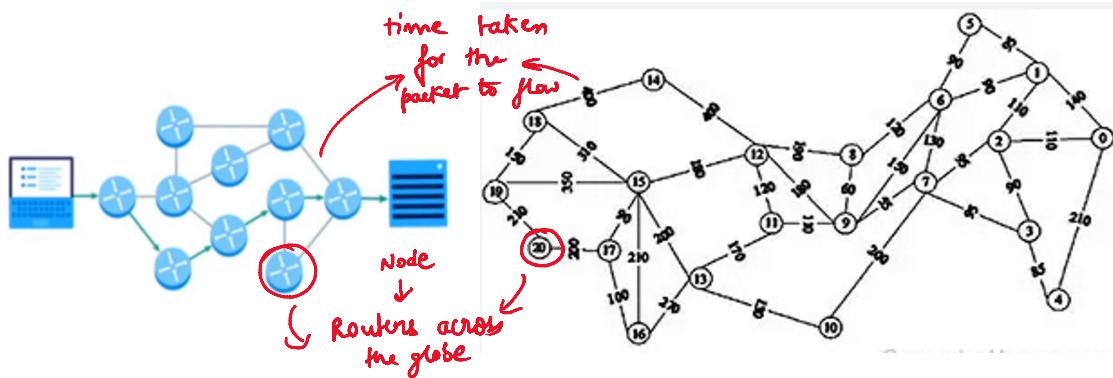
V = VerTEX is each Pixel

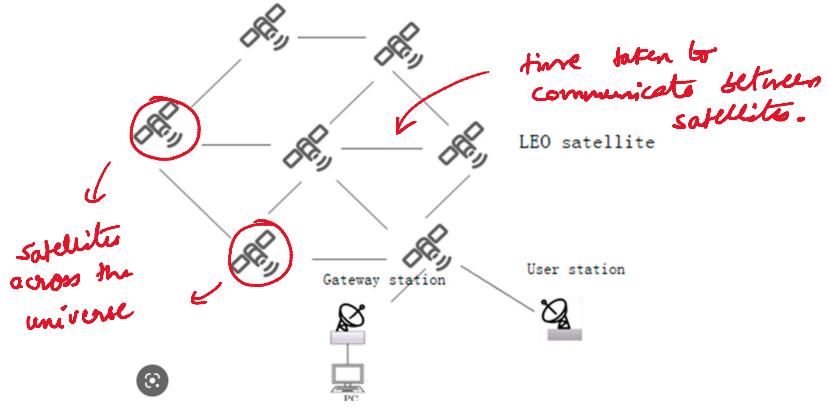
E = Connection b/w these Pixels

until a black line concept.

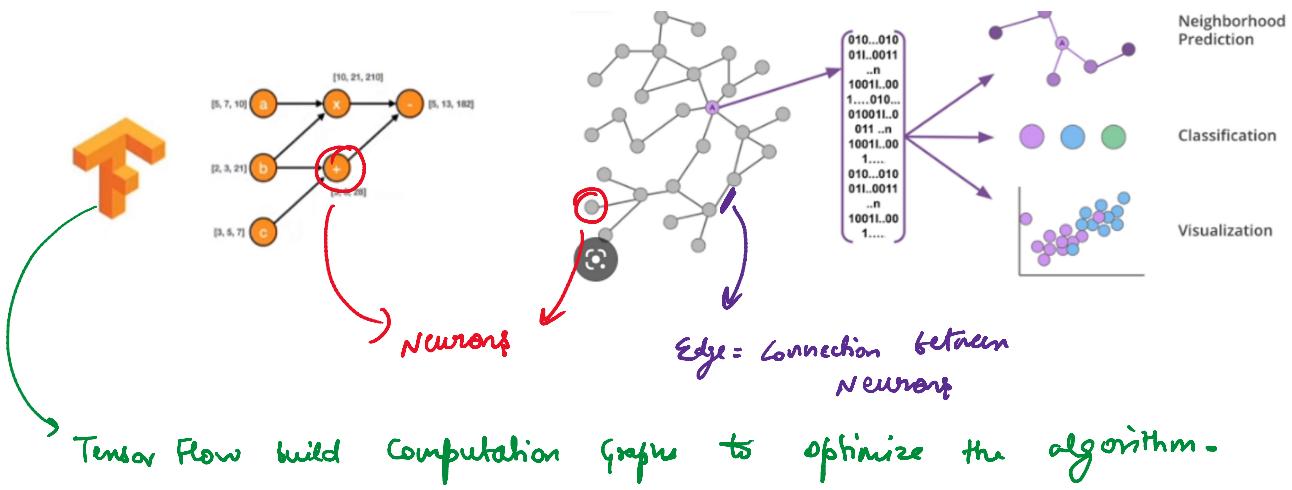


07. Routing Algorithms & Tele-communication





08. Graphs in Deep Learning



Tensor Flow build Computation graphs to optimize the algorithm.

+

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more use-cases. [we see as we go forward in lectures]