

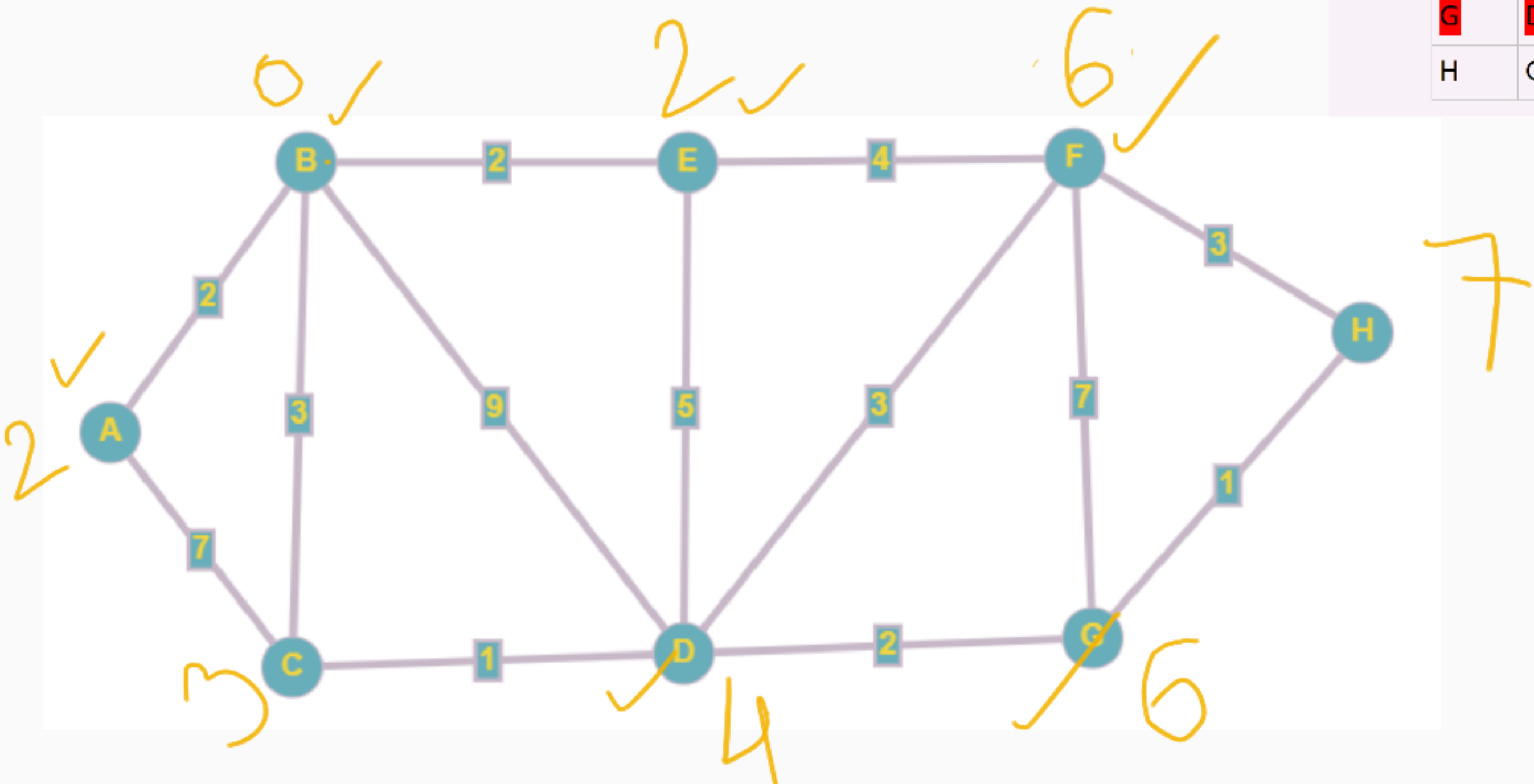
**Shortest Path Algorithm (For a weighted graph) & It is a type of Greedy Algorithm**

If you have a source node, this algorithm tells you the shortest path from that source to each other nodes

**B is the source node**

Going from B to A. B has a cost of 0 (from the source) and the edge costs 2. Add these. The cost of A will be the minimum value between its own cost and the newly added cost.

Node	Parent	Cost	Checked
A	B	2	Yes
B	-	0	Yes
C	B	3	Yes
D	C	4	Yes
E	B	2	Yes
F	E	6	Yes
G	D	6	Yes
H	G	7	No



**Shortest Path from B to H: B -> C -> D -> G -> H**

**Dijkstra's  
Algorithm  
cannot handle  
any NEGATIVE  
edges**

**Because it  
gets stuck in  
an infinite  
cycle due to  
its greedy  
nature**

**Soln:  
Bellman  
Ford's  
Algorithm**