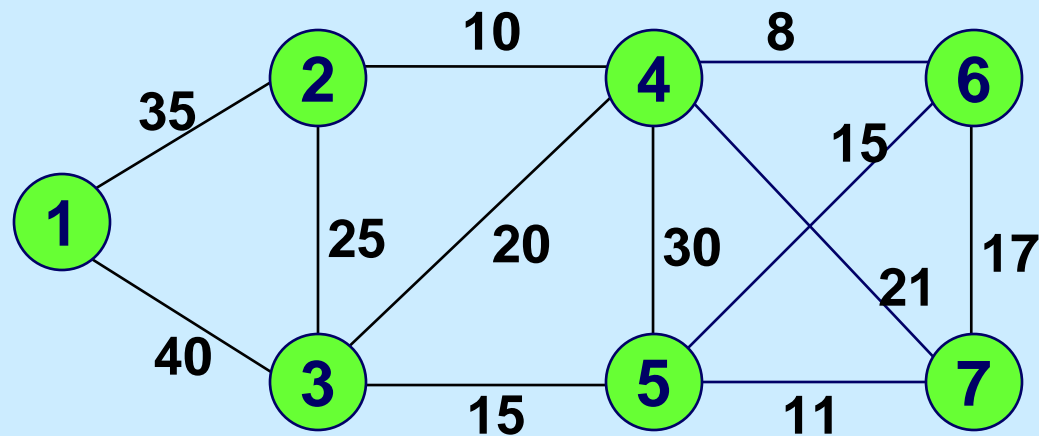
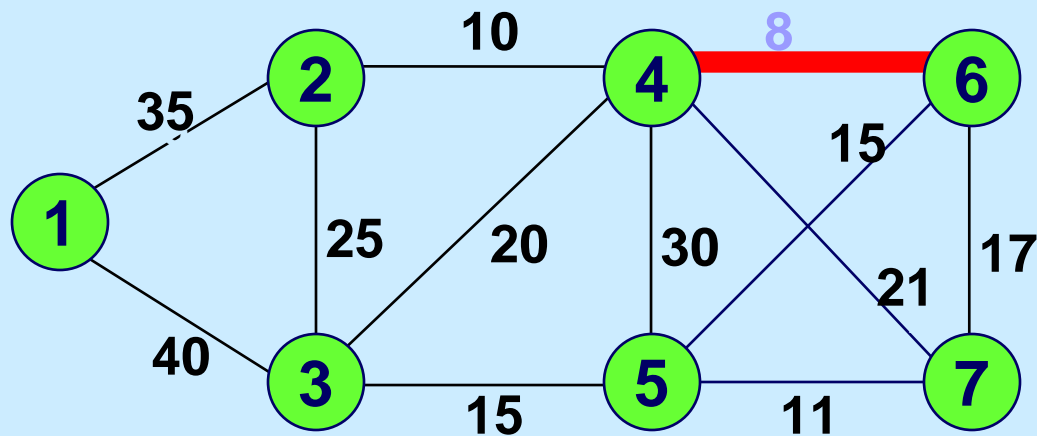

15.082 and 6.855J

Spanning Tree Algorithms

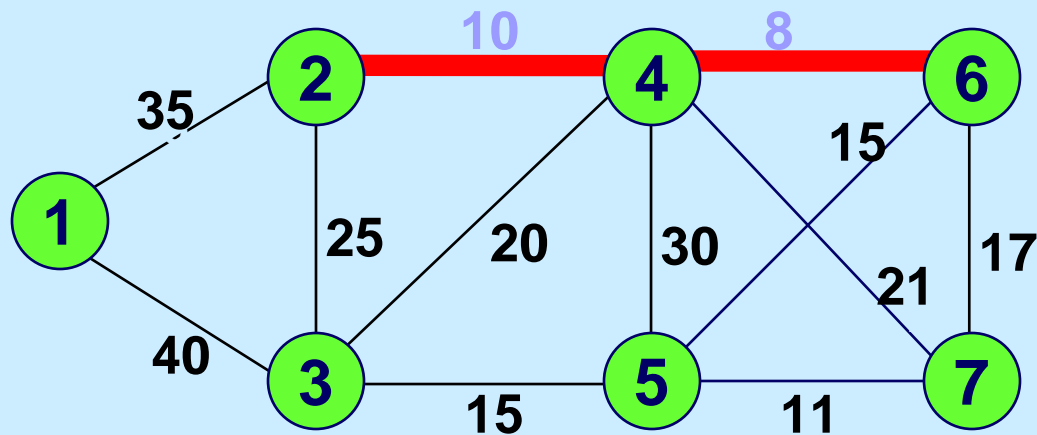
The Greedy Algorithm in Action



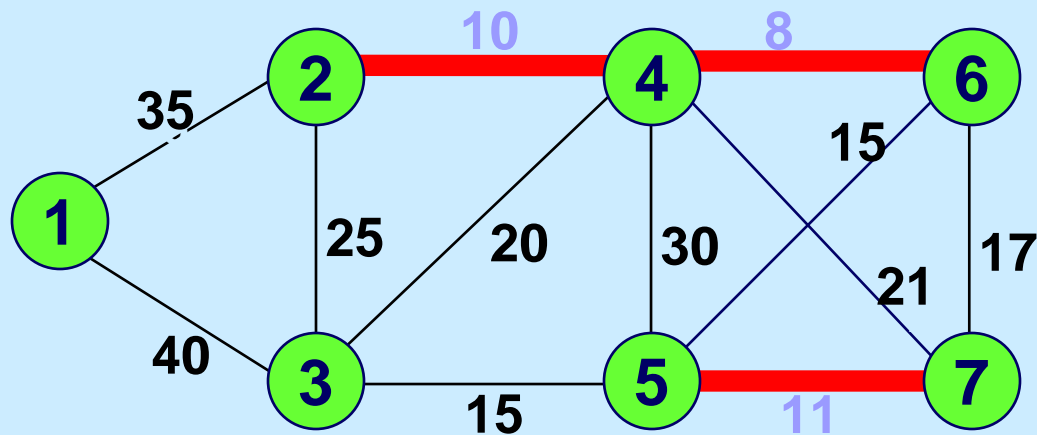
The Greedy Algorithm in Action



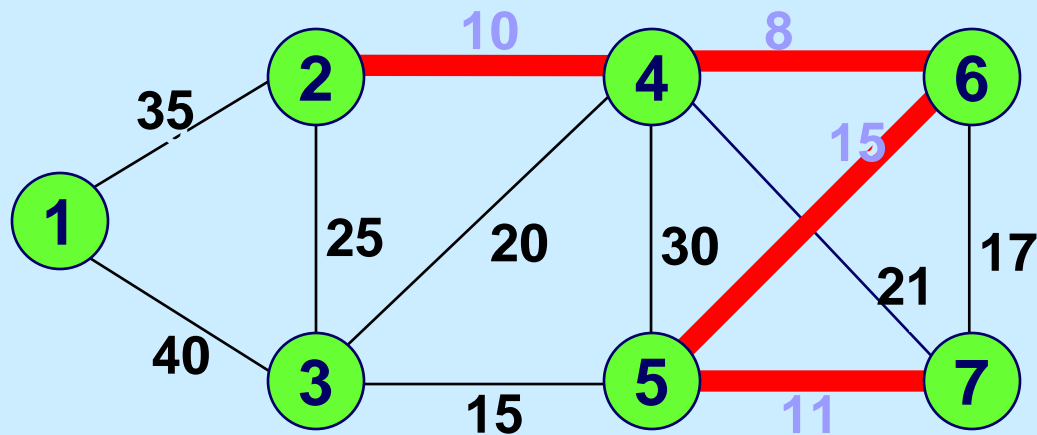
The Greedy Algorithm in Action



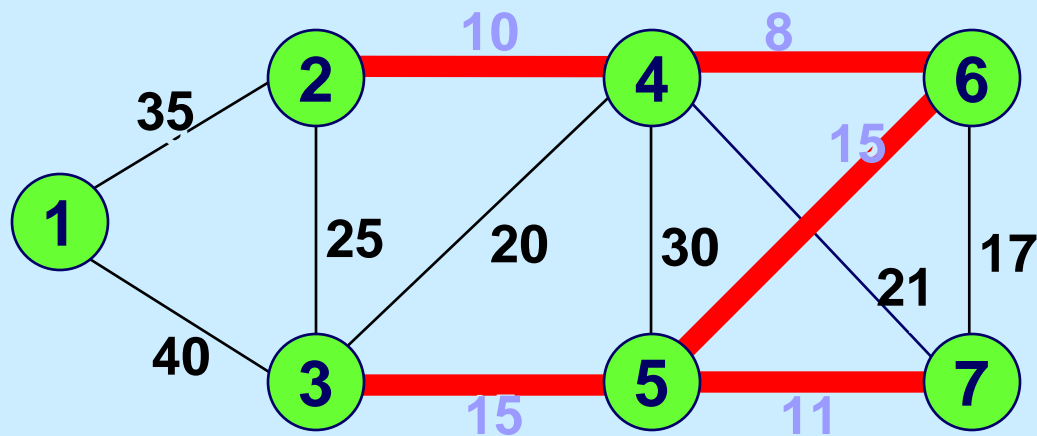
The Greedy Algorithm in Action



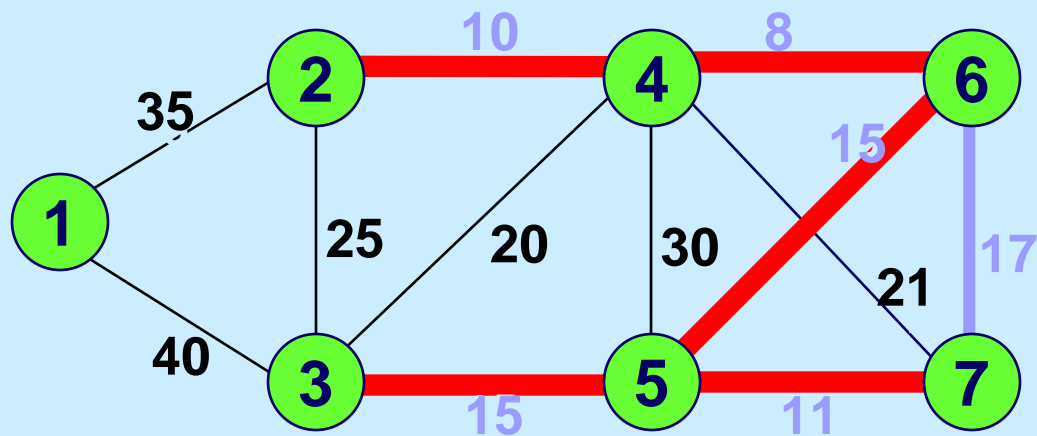
The Greedy Algorithm in Action



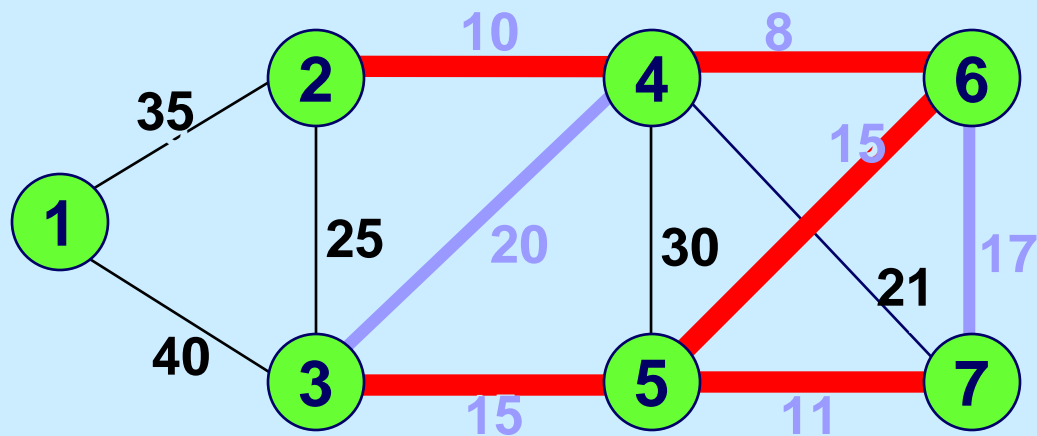
The Greedy Algorithm in Action



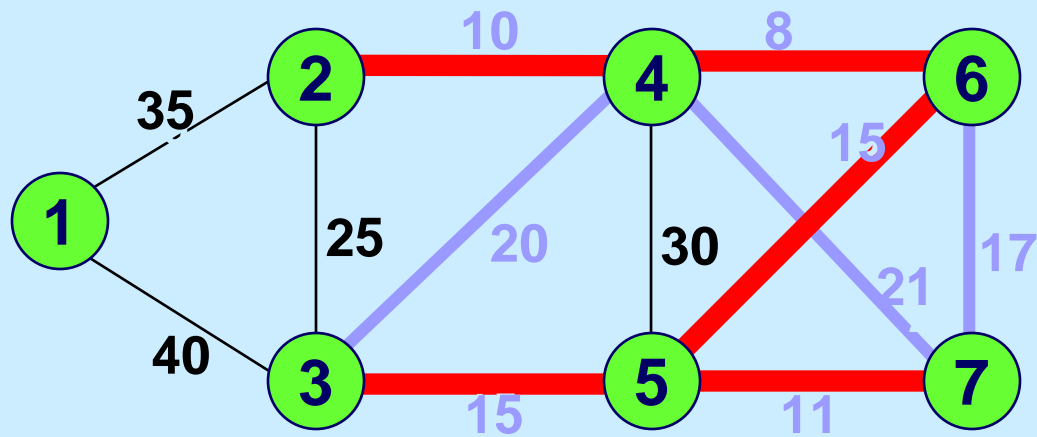
The Greedy Algorithm in Action



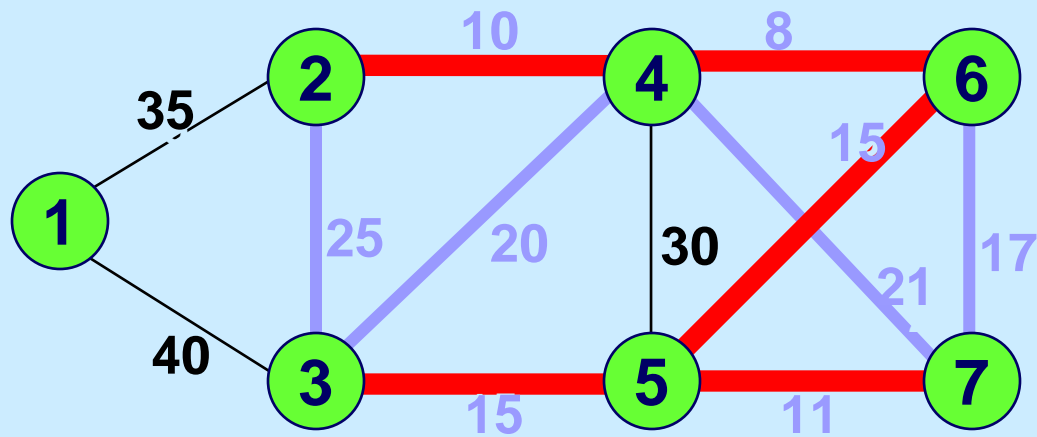
The Greedy Algorithm in Action



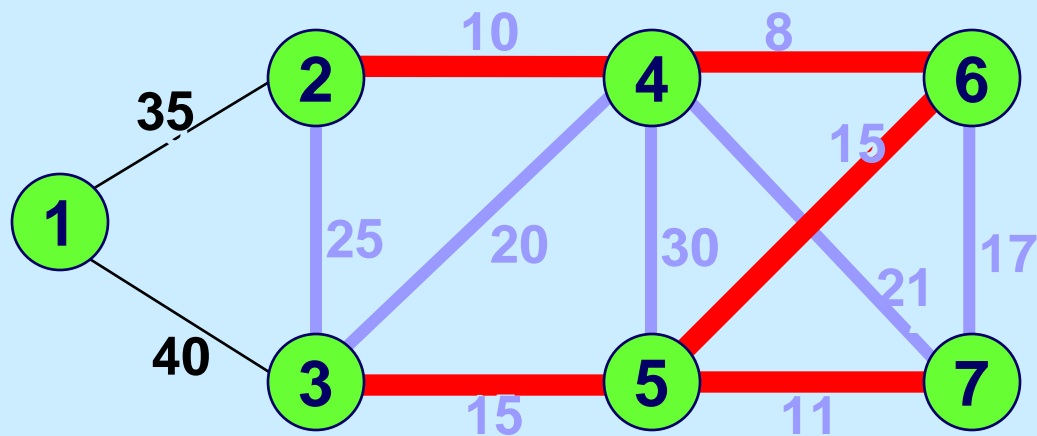
The Greedy Algorithm in Action



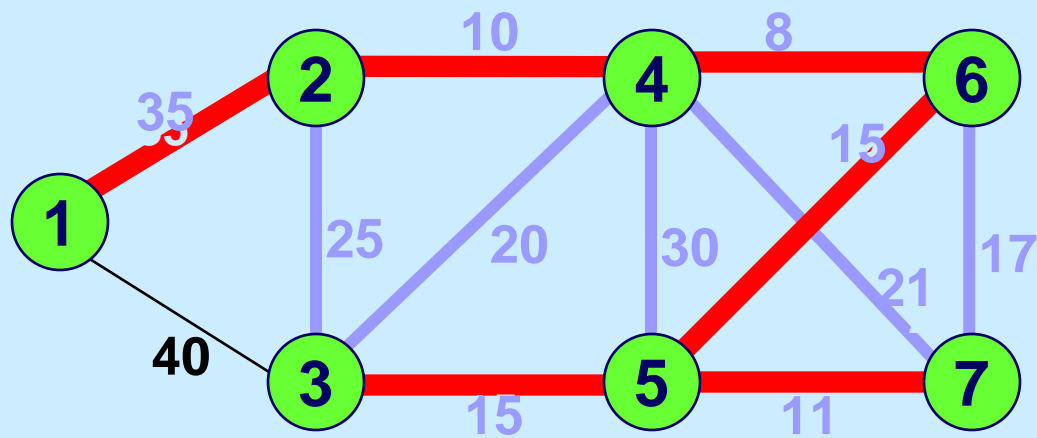
The Greedy Algorithm in Action



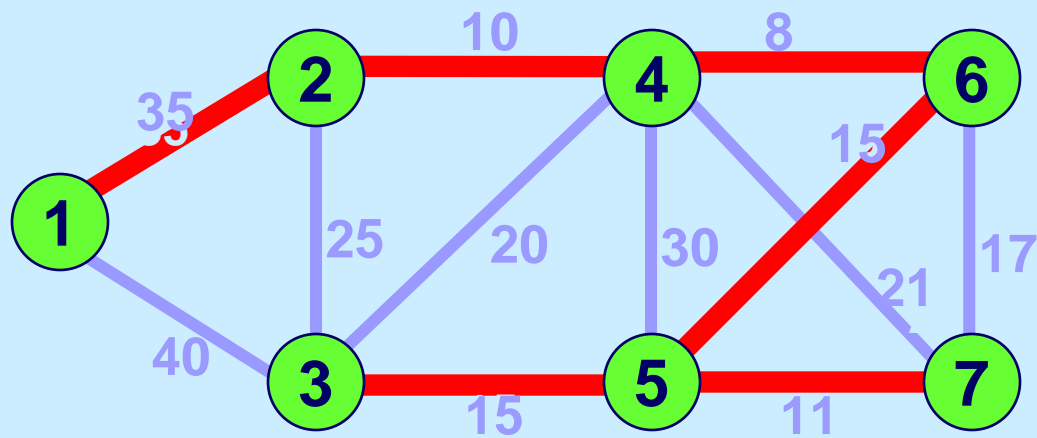
The Greedy Algorithm in Action



The Greedy Algorithm in Action

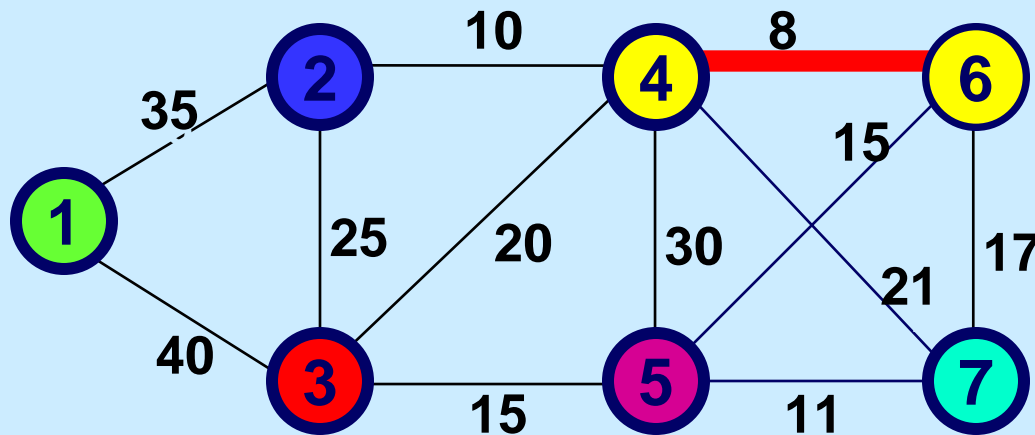


The Greedy Algorithm in Action



The Greedy Algorithm in Action

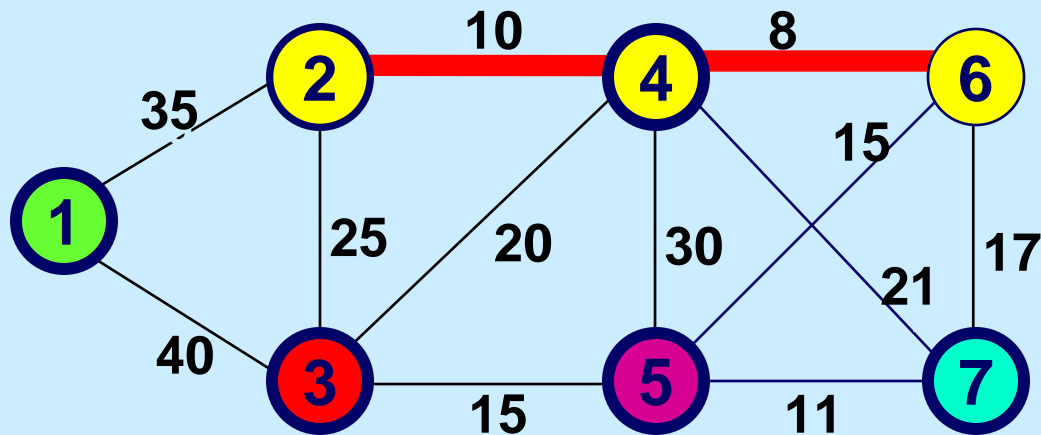
Node	1	2	3	4	5	6	7
First	1	2	3	4	5	4	7



○ root node

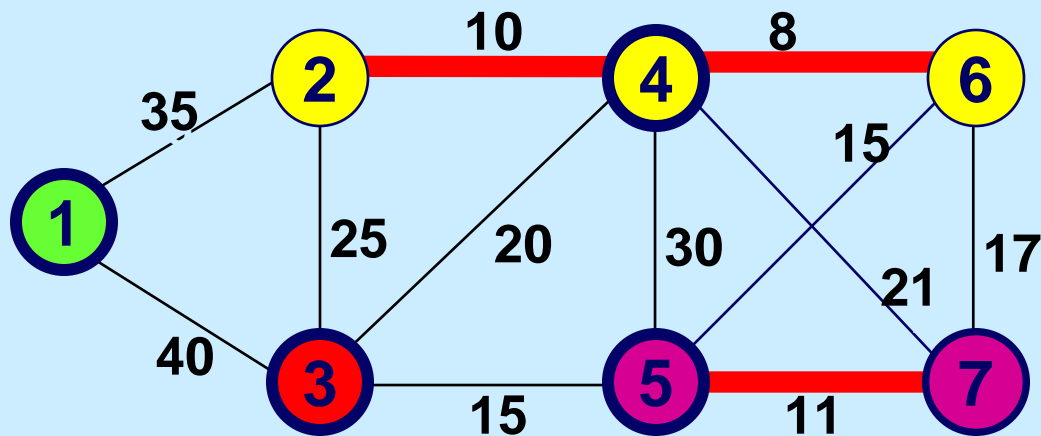
The Greedy Algorithm in Action

Node	1	2	3	4	5	6	7
First	1	4	3	4	5	4	7



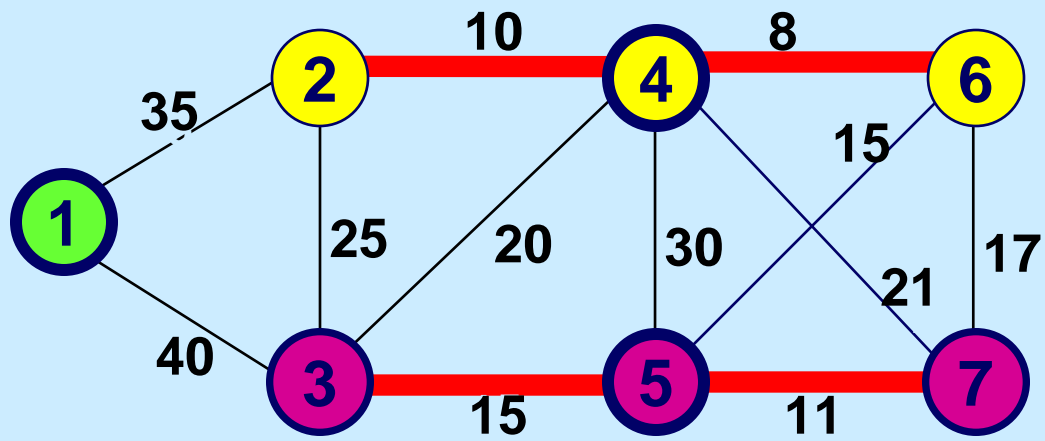
The Greedy Algorithm in Action

Node	1	2	3	4	5	6	7
First	1	4	3	4	5	4	5



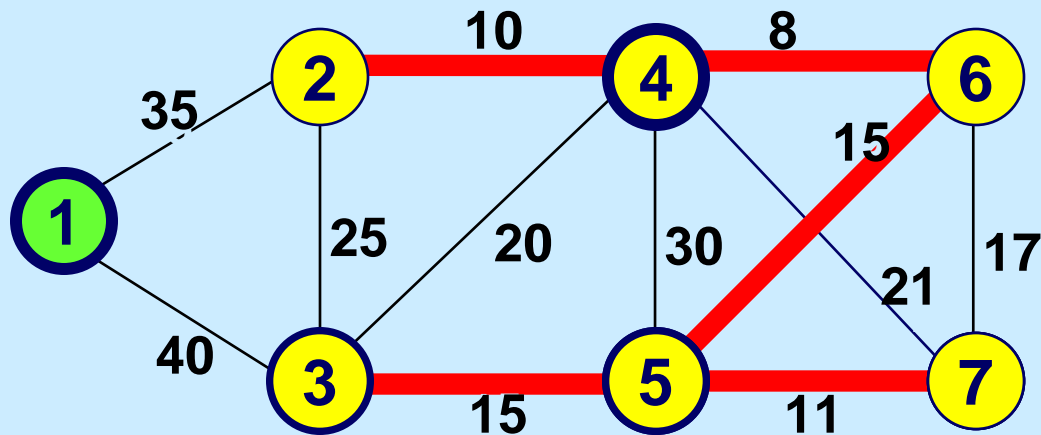
The Greedy Algorithm in Action

Node	1	2	3	4	5	6	7
First	1	4	5	4	5	4	5



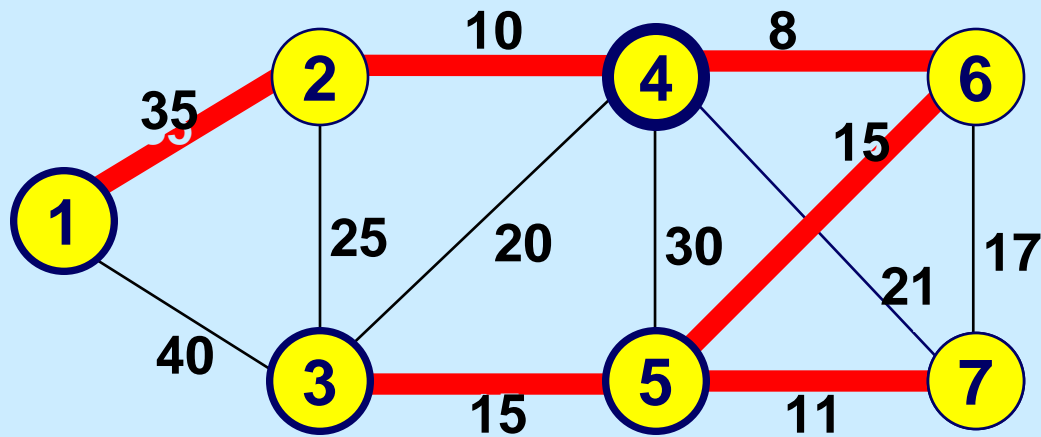
The Greedy Algorithm in Action

Node	1	2	3	4	5	6	7
First	1	4	4	4	4	4	4

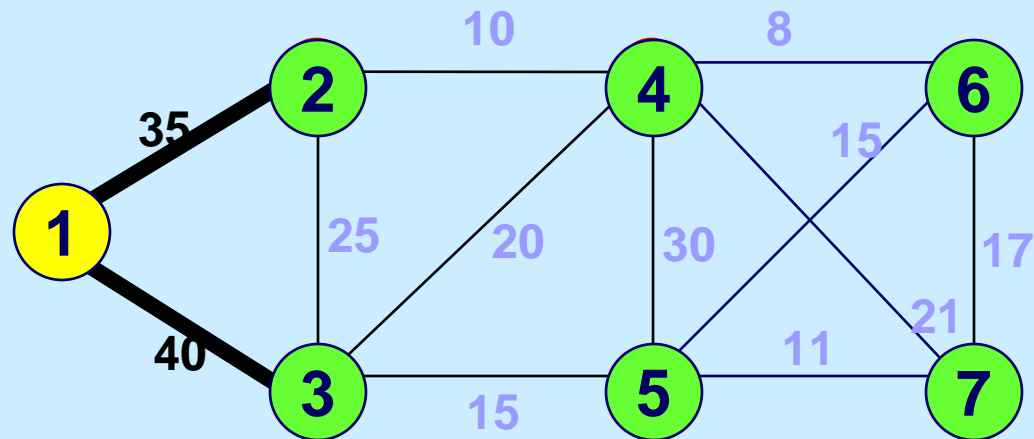


The Greedy Algorithm in Action

Node	1	2	3	4	5	6	7
First	4	4	4	4	4	4	4

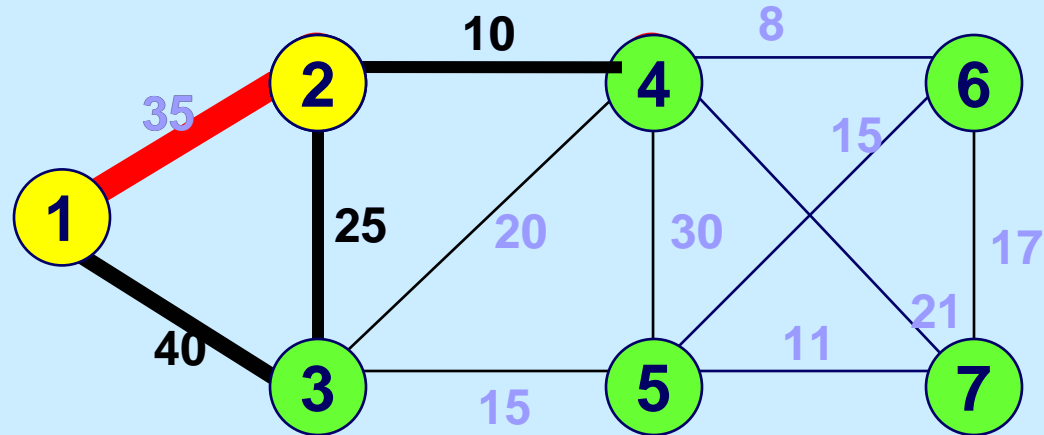


Prim's Algorithm in Action

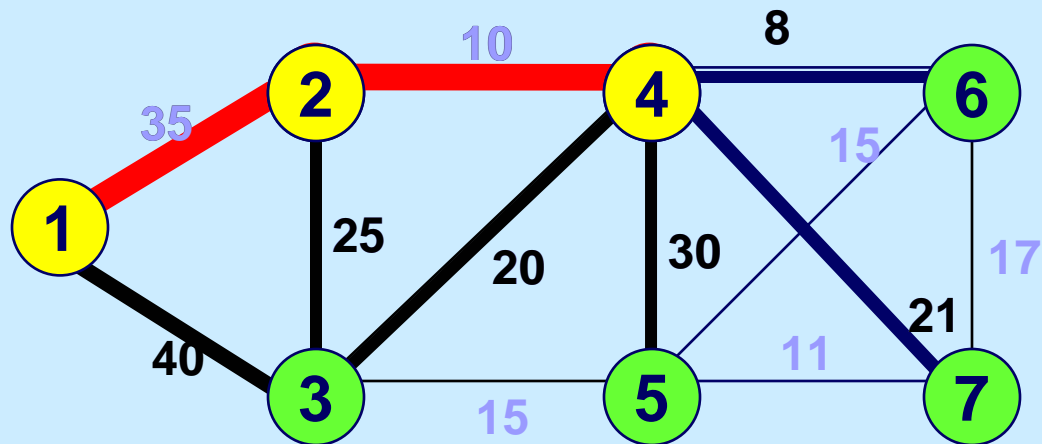


The minimum cost arc from yellow nodes to green nodes can be found by placing arc values in a priority queue.

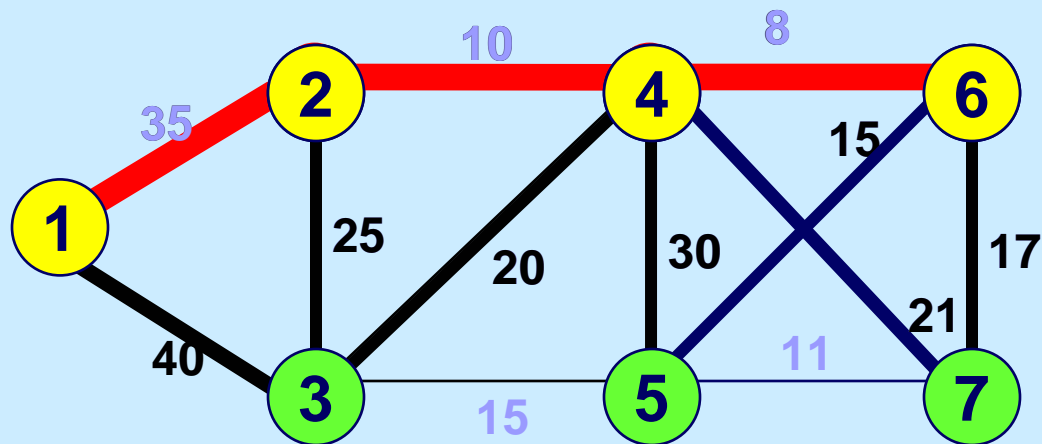
Prim's Algorithm in Action



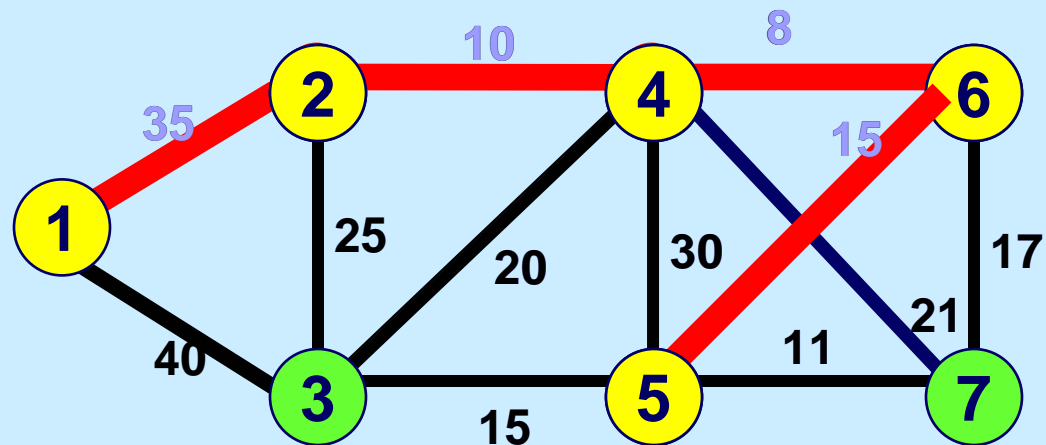
Prim's Algorithm in Action



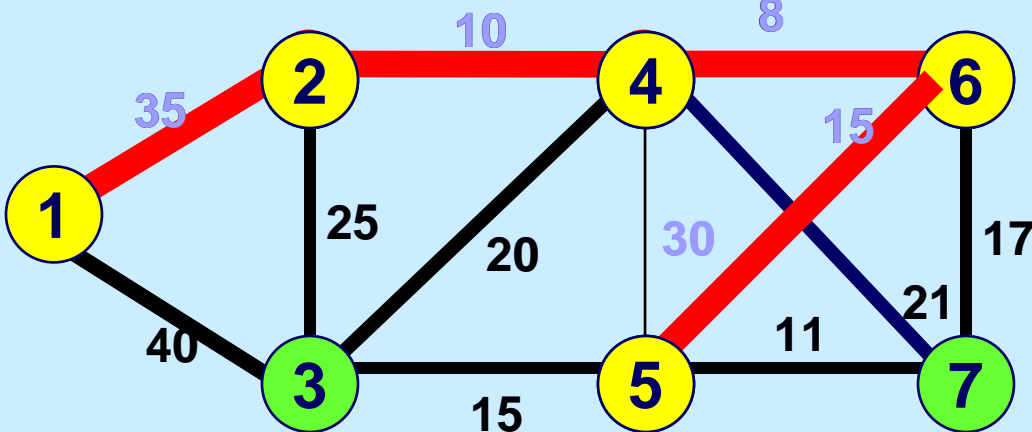
Prim's Algorithm in Action



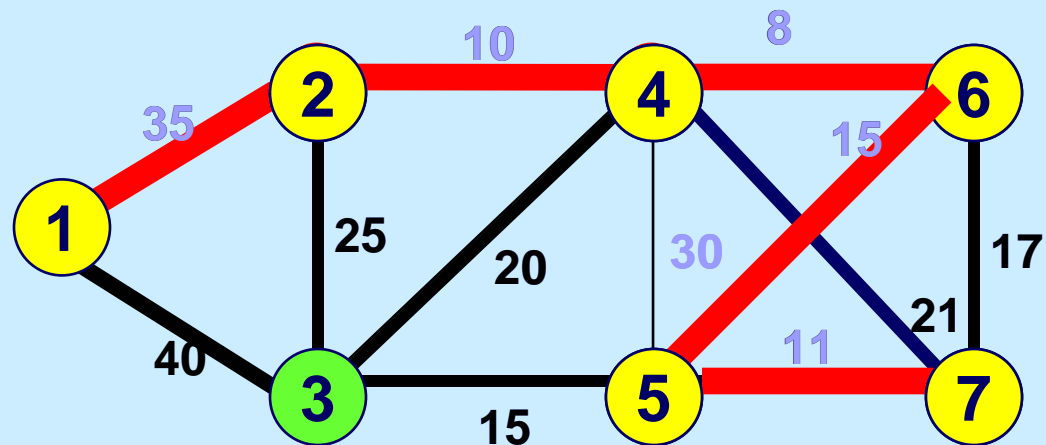
Prim's Algorithm in Action



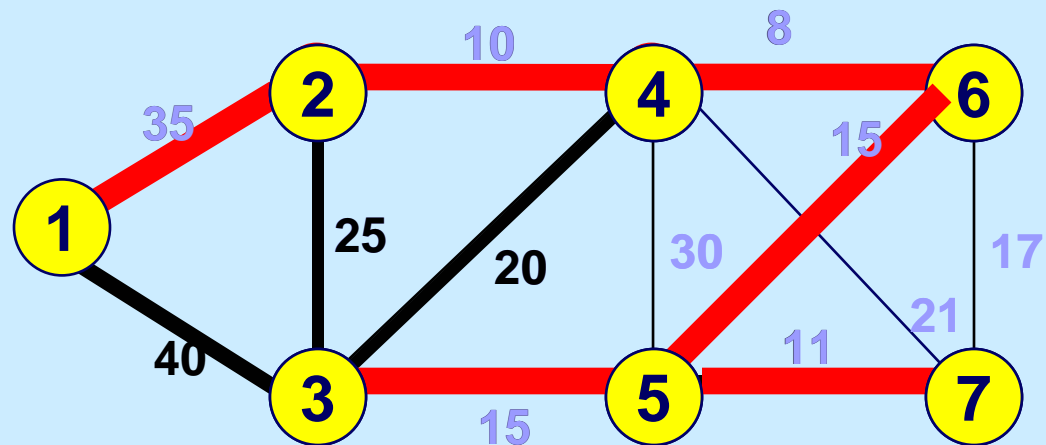
Prim's Algorithm in Action



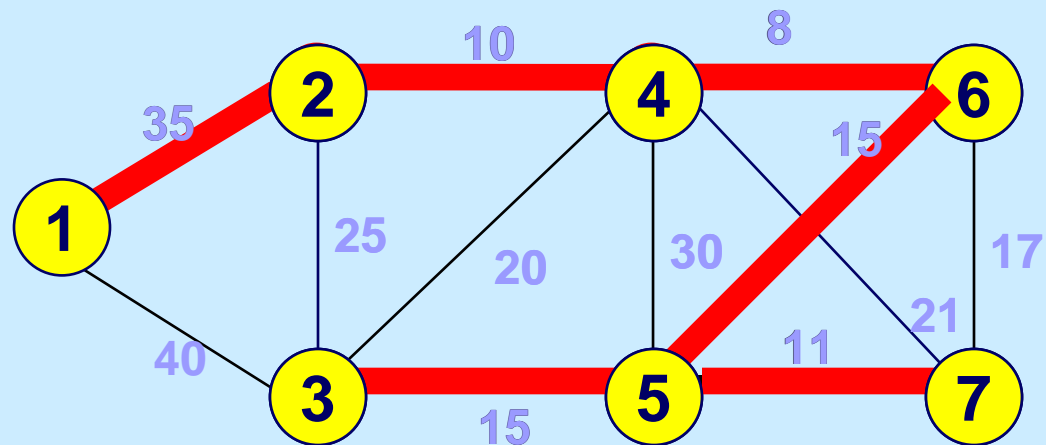
Prim's Algorithm in Action



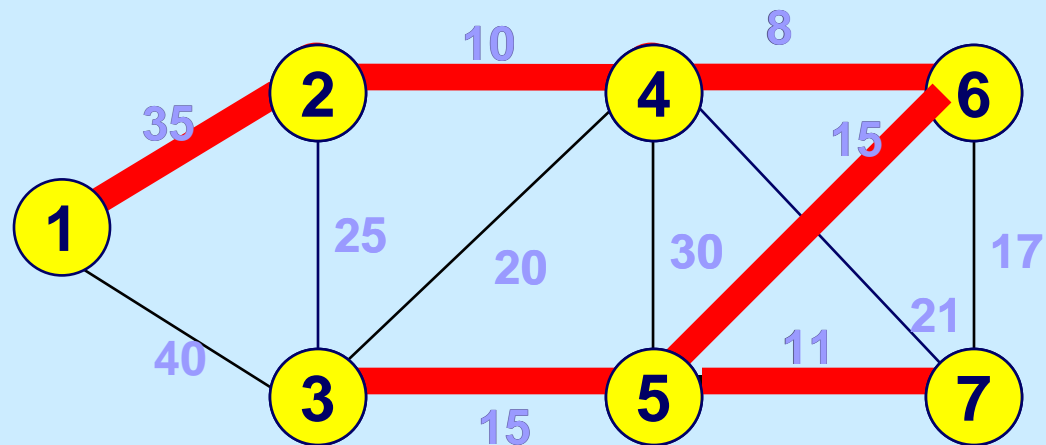
Prim's Algorithm in Action



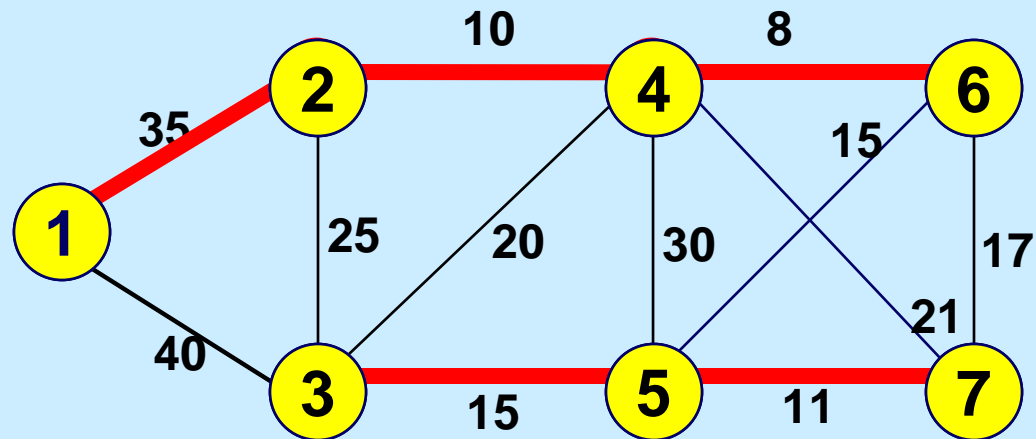
Prim's Algorithm in Action



Prim's Algorithm in Action

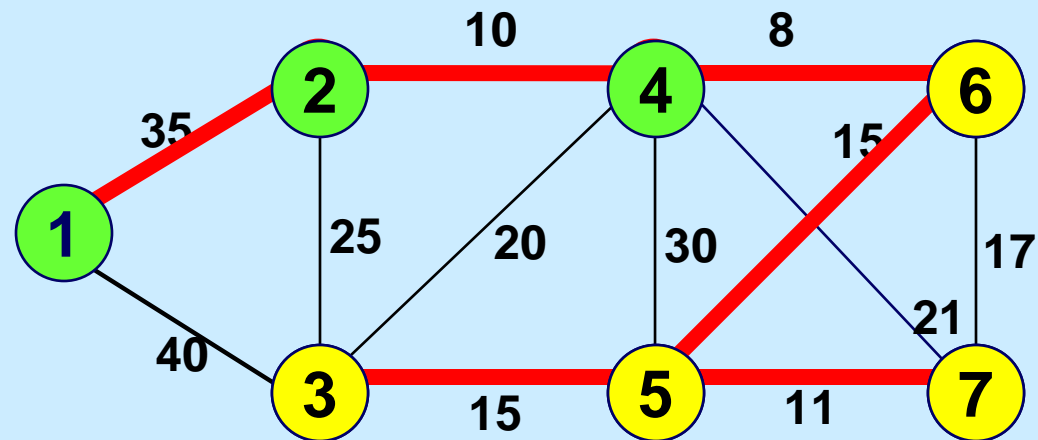


Sollin's Algorithm in Action



Treat all nodes as singleton components, and then select the min cost arc leaving the component.

Sollin's Algorithm in Action



Find the min cost edge out of each component