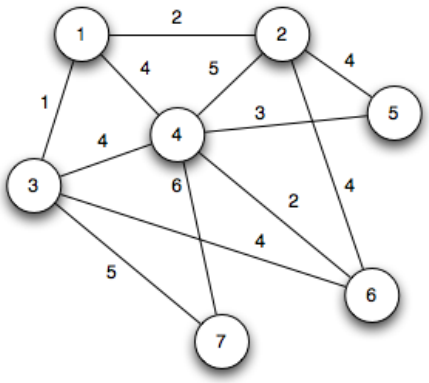
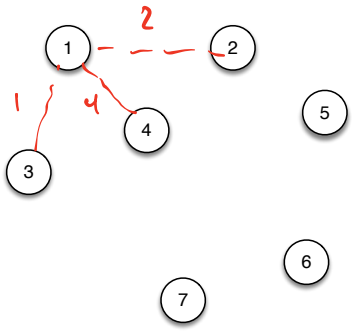
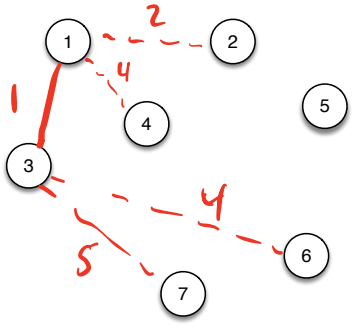
Prim's algorithm - with starting vertex 1 and ordering edge pairs with the lower vertex first. Show the queue and tree at each step along with the edge that is added.





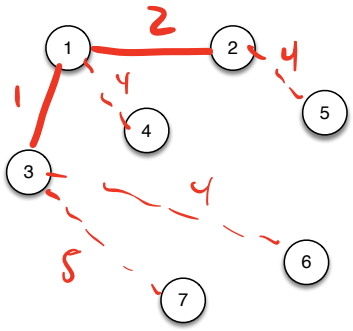
Q

key	u	π
0	1	/
∞	2	/
∞	3	/
∞	4	/
∞	5	/
∞	6	/
∞	7	



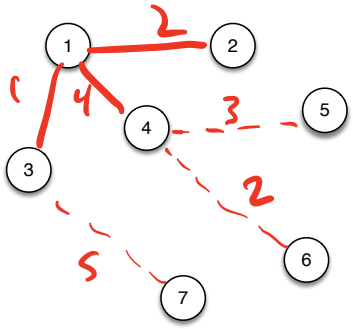
Q

key	u	π
1	3	1
2	2	1
4	4	1
∞	5	/
∞	6	/
∞	7	/



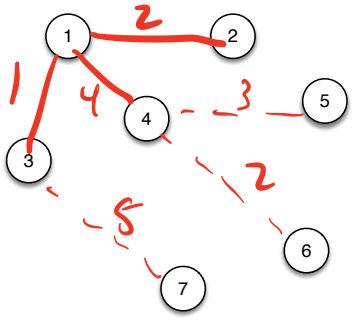
Q

key	u	π
~~2~~	~~2~~	~~1~~
4	4	1
4	6	3
5	7	3
20	5	1



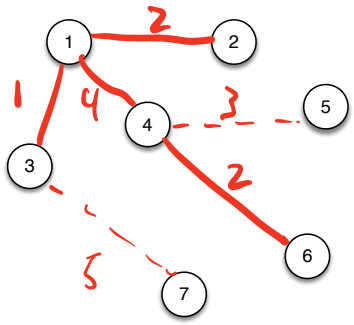
Q

key	u	π
~~4~~	~~4~~	~~1~~
4	5	2
4	6	3
5	7	3



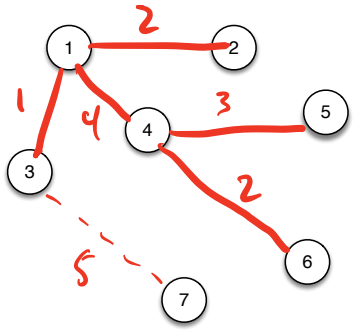
Q

key	u	π
~~2~~	~~6~~	~~4~~
3	5	4
5	7	3



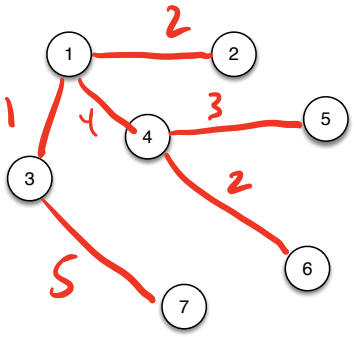
Q

key	u	π
3	5	4
5	7	3



Q

key	u	π
5	7	3



Q

key	u	π

$w(T) = 1+2+4+2+3+5$

$= 17$