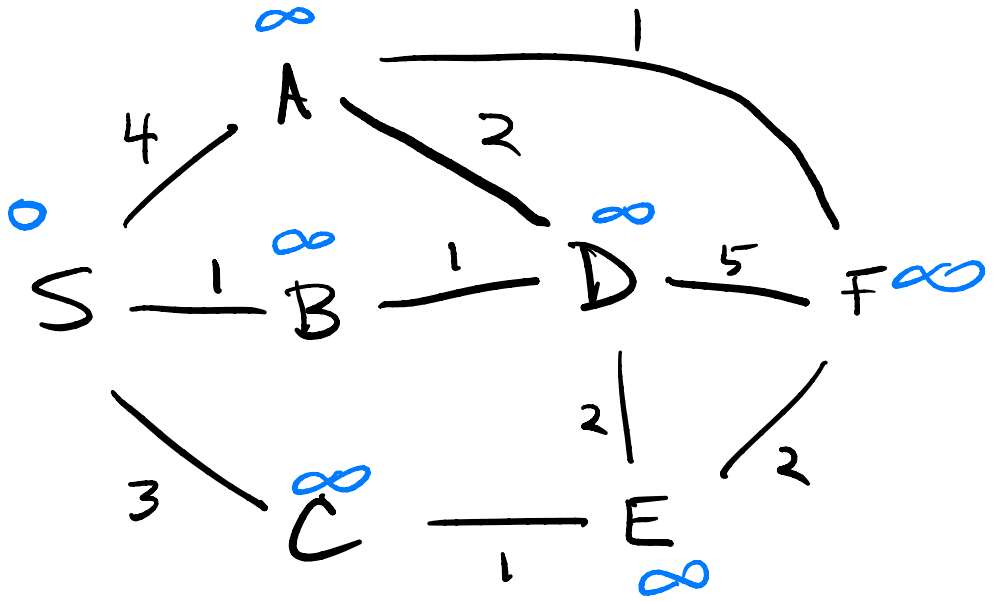
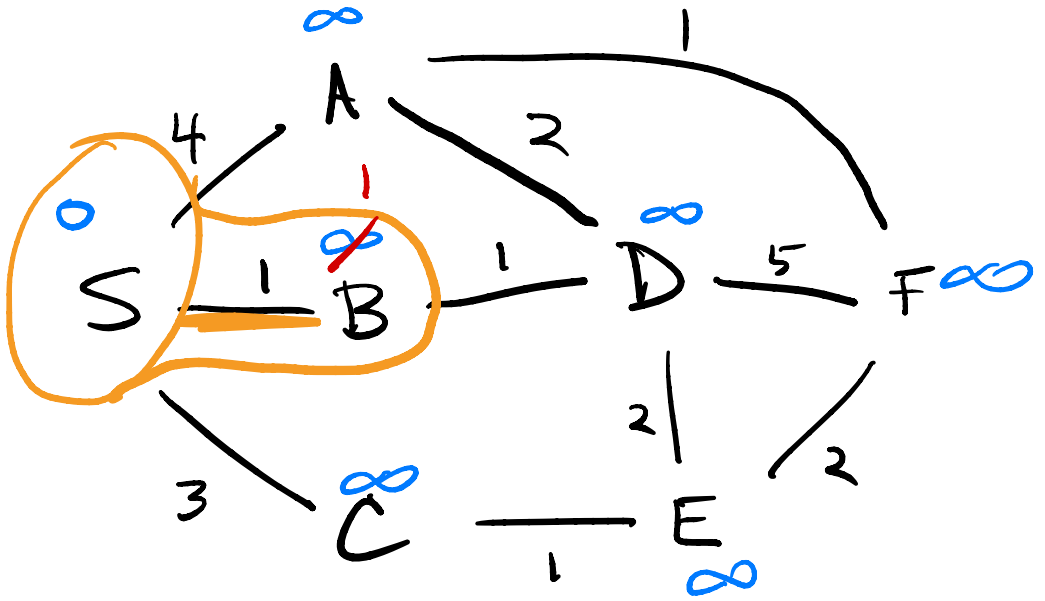
CS 252

F, 19 April 2024

d[u]

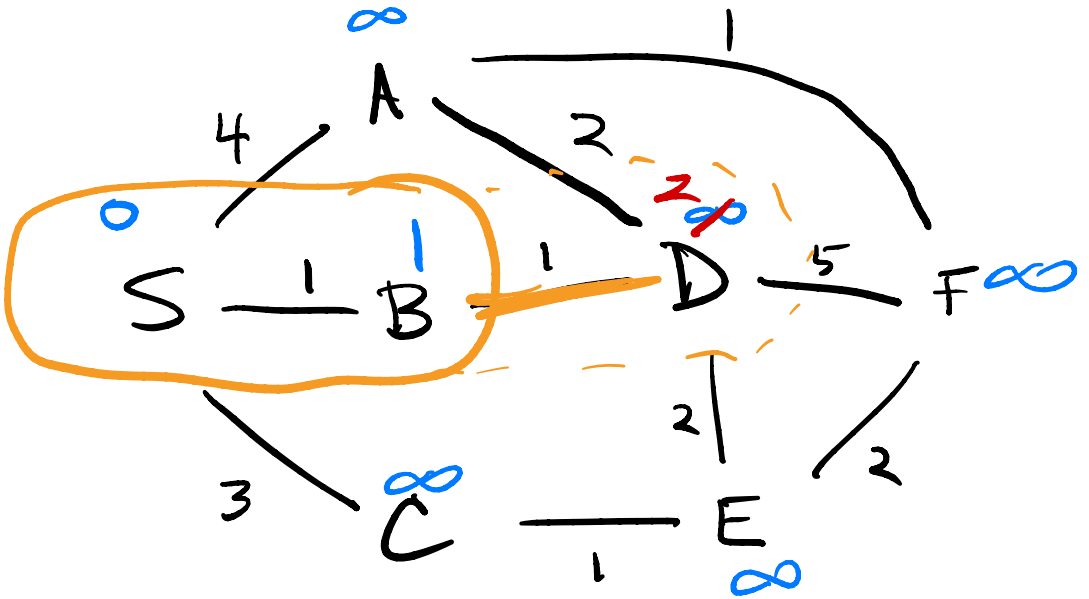


d[u]

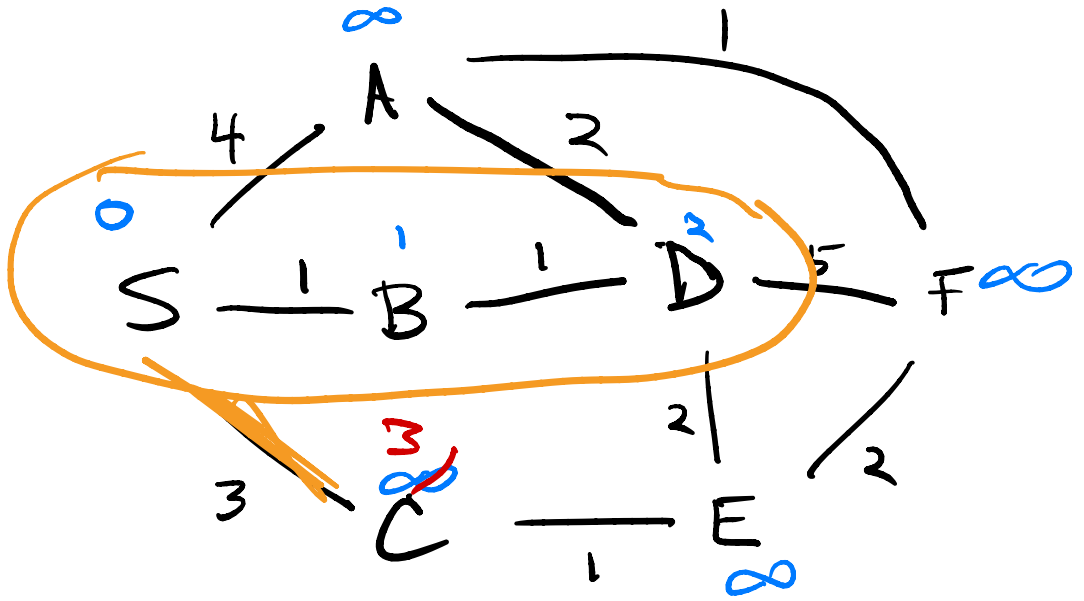


Settled nodes

d[u]

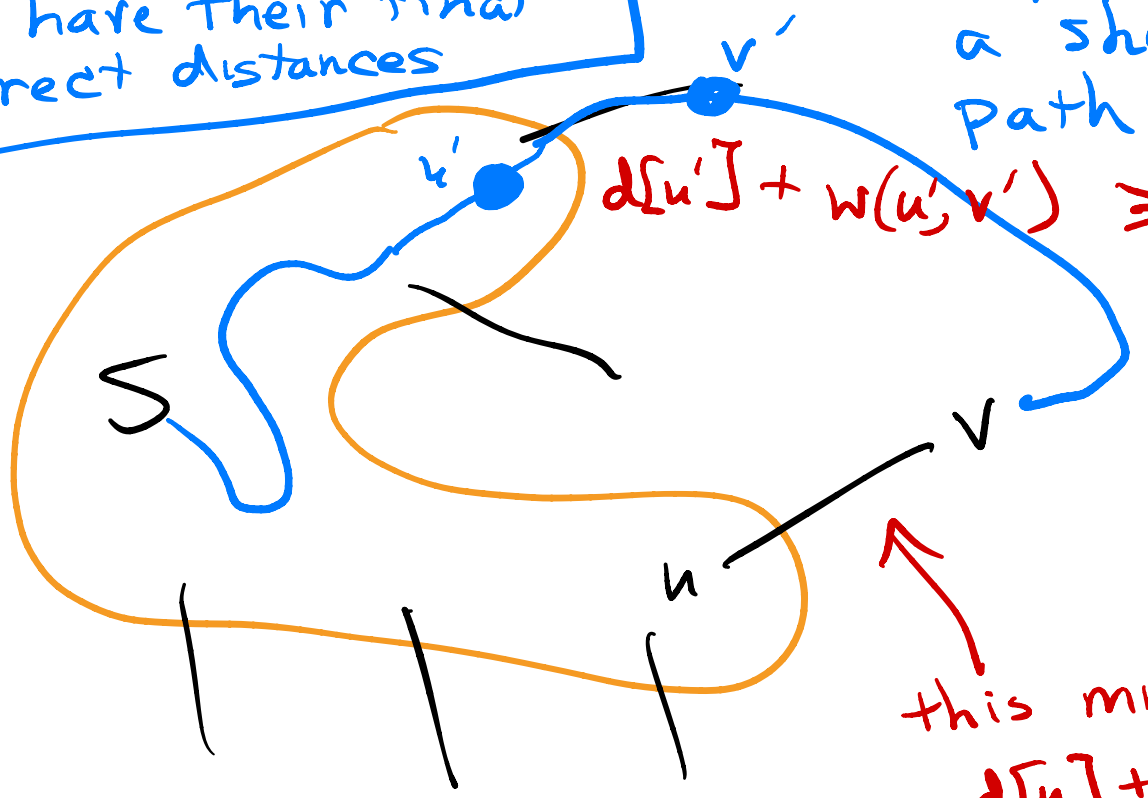


d[u]



Induction: all nodes in S have their final correct distances

Suppose there's a shorter path S to v



$d[u'] + w(u', v') \geq d[u] + w(u, v)$

this minimizes $d[u] + w(u, v)$

Select $v \notin S$

$$d'(v) = \min_{e=(u,v):\, u \in S} d(u) + l_e$$

$d[u] + w(u,v)$

as small as possible