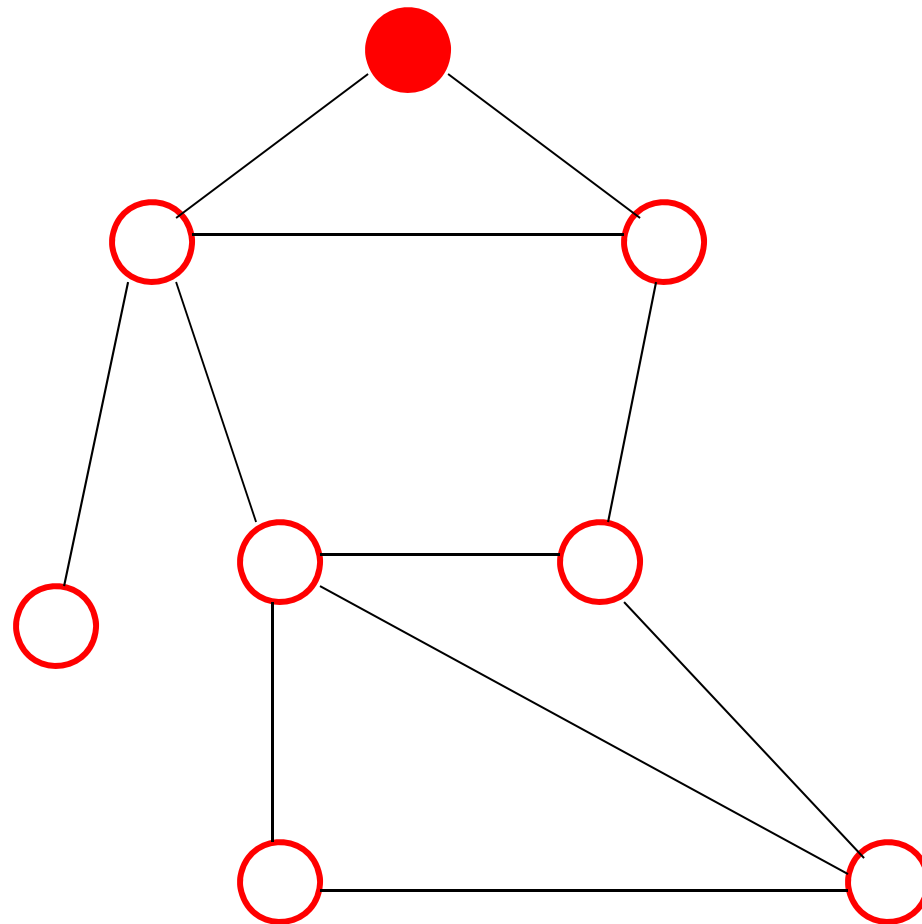
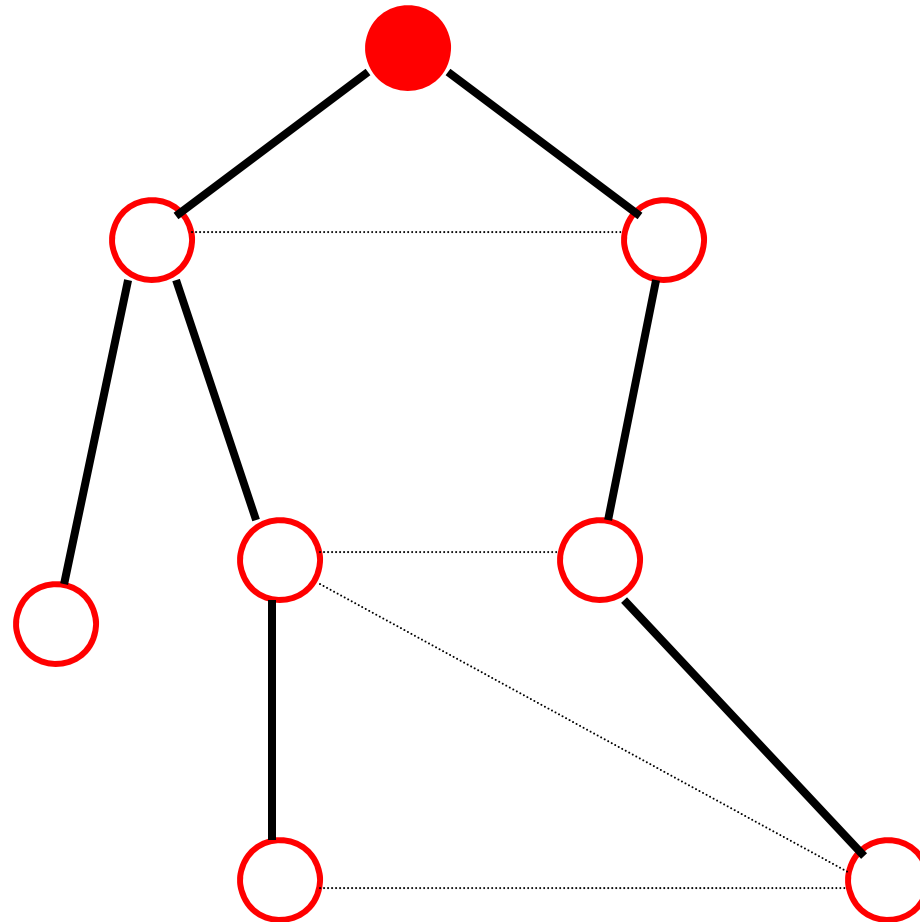


Slanje svima (Broadcast)

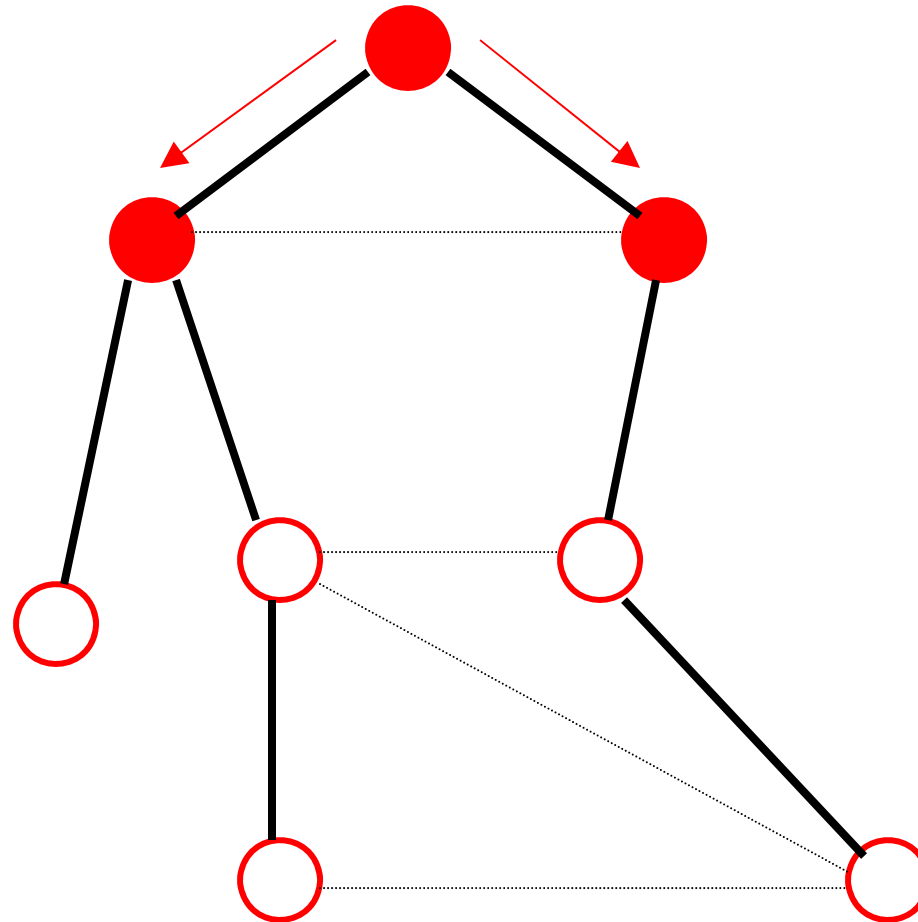


Koren

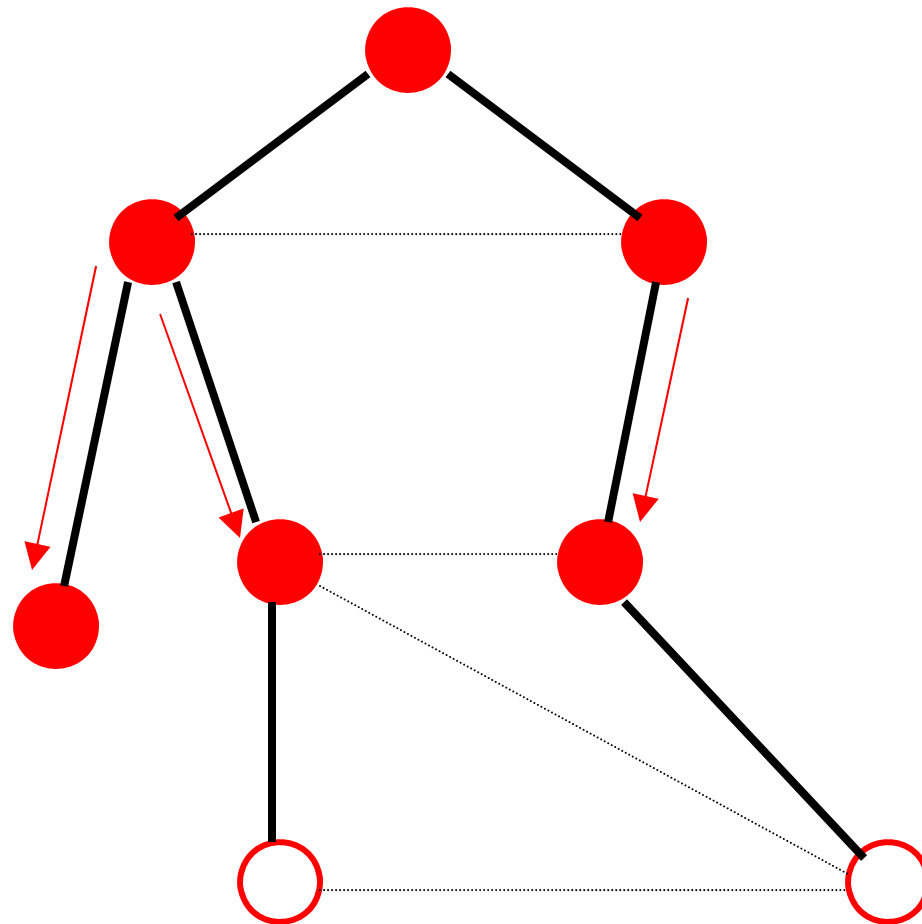


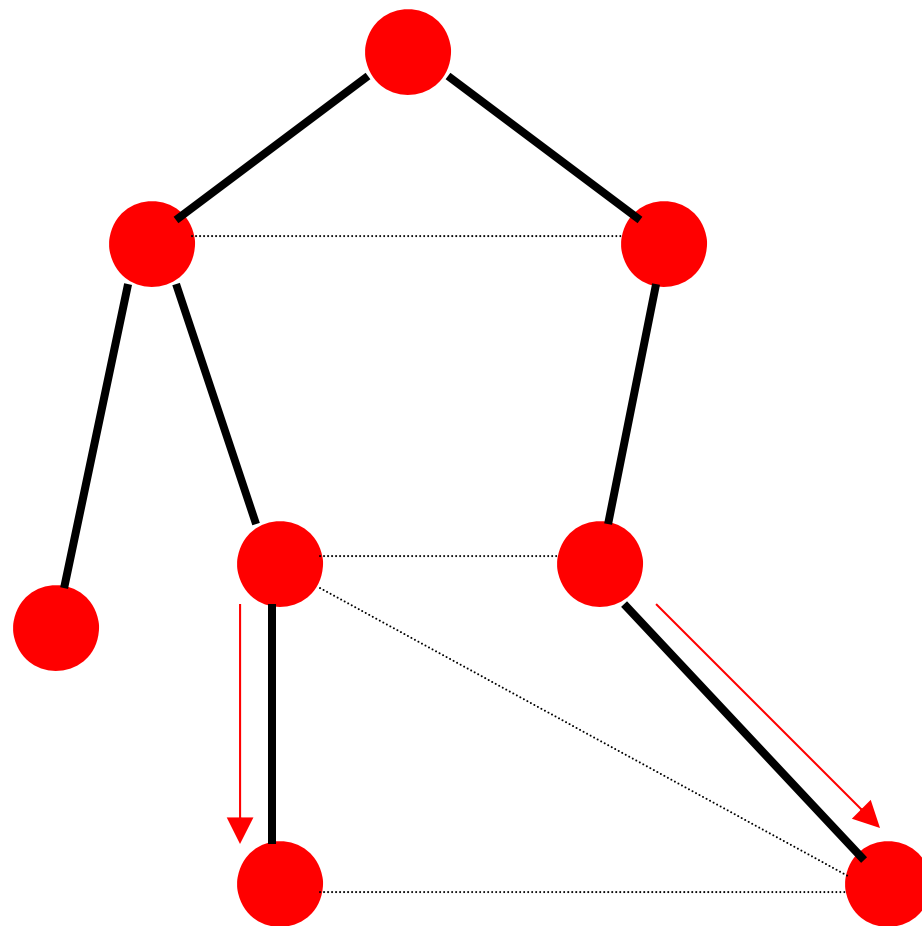
Upotrebi razapinjuće stablo

Sinhrono

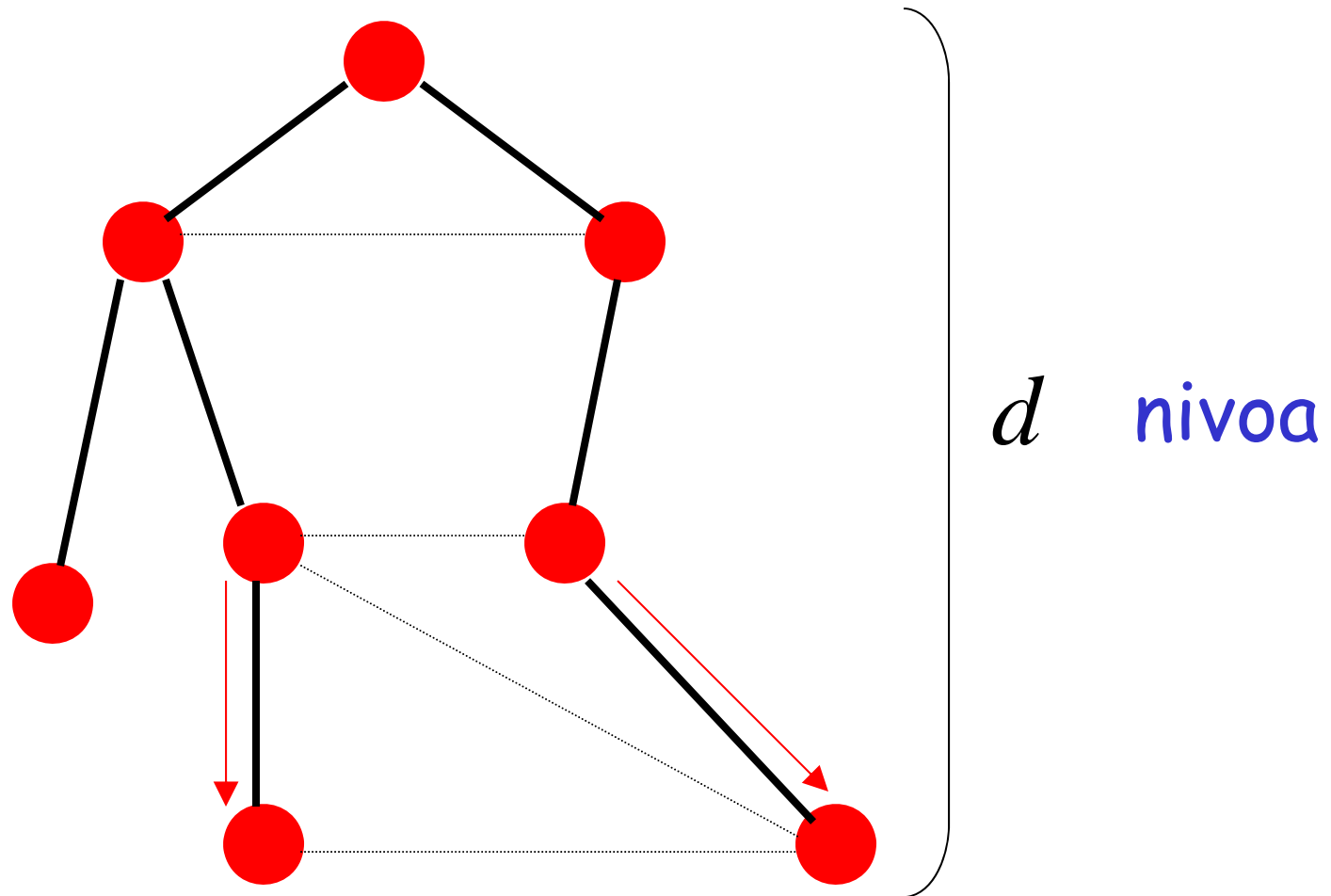


- U isto vreme na svakom luku se pošalje poruka
- U isto vreme u svakom čvoru se obrade primljeni podaci





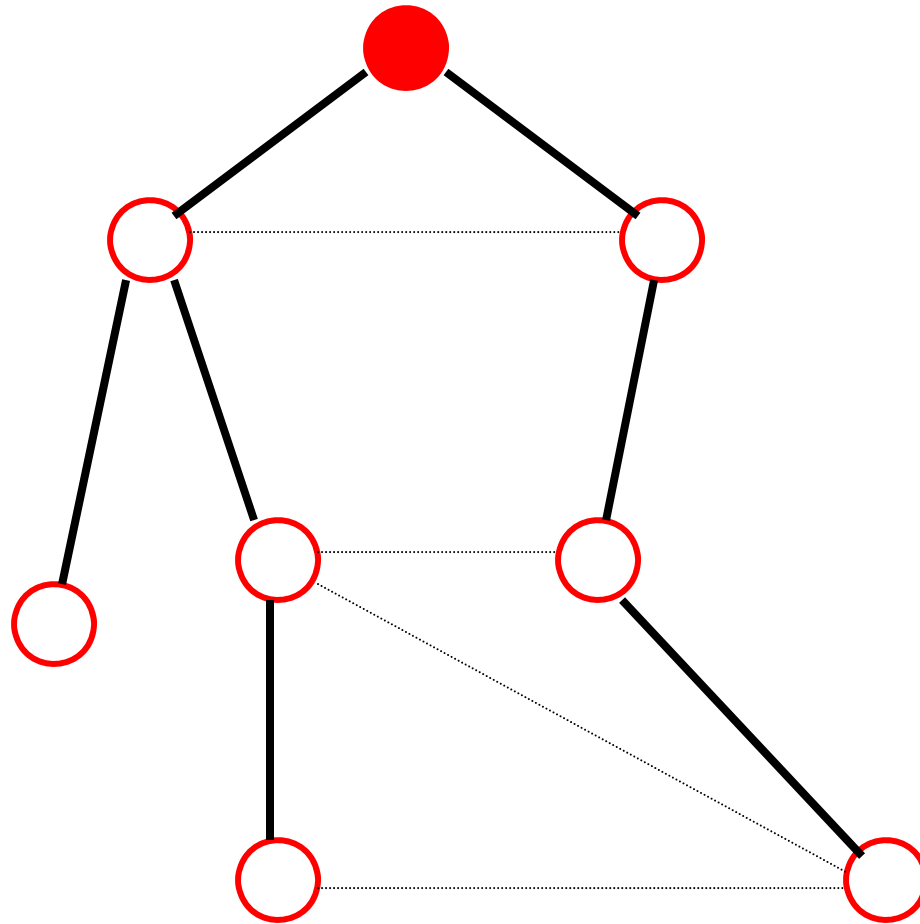
n čvorova



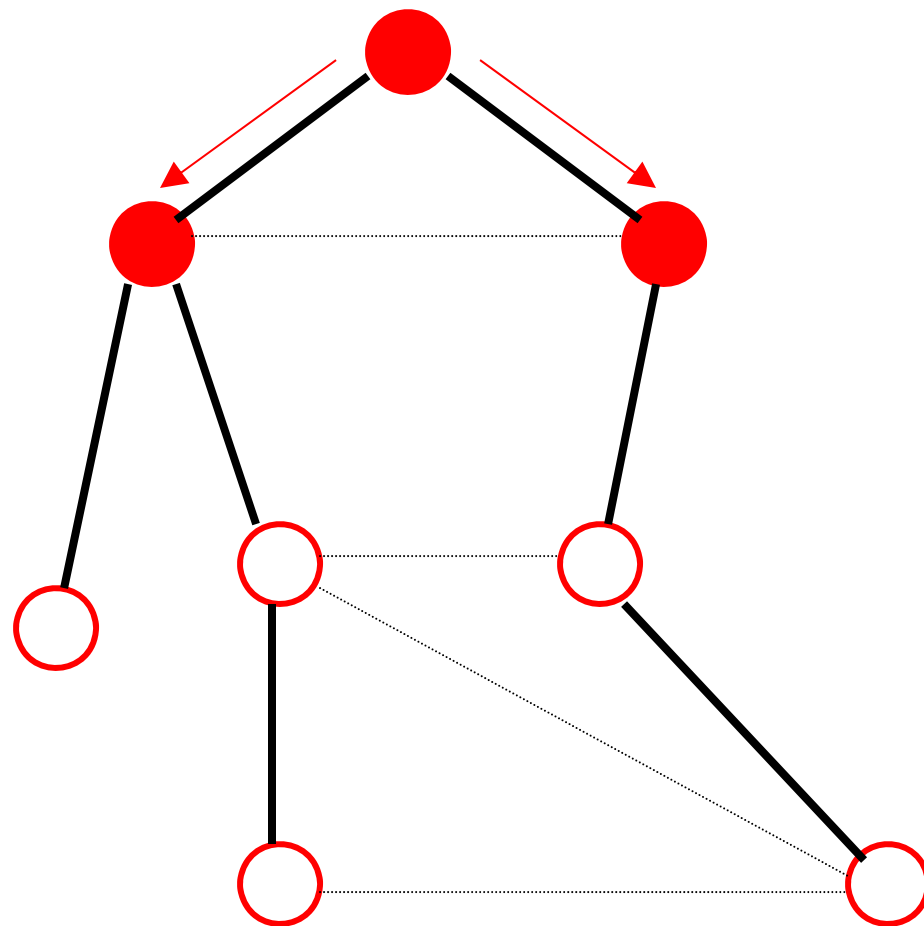
Vreme izvršenja: $O(d)$

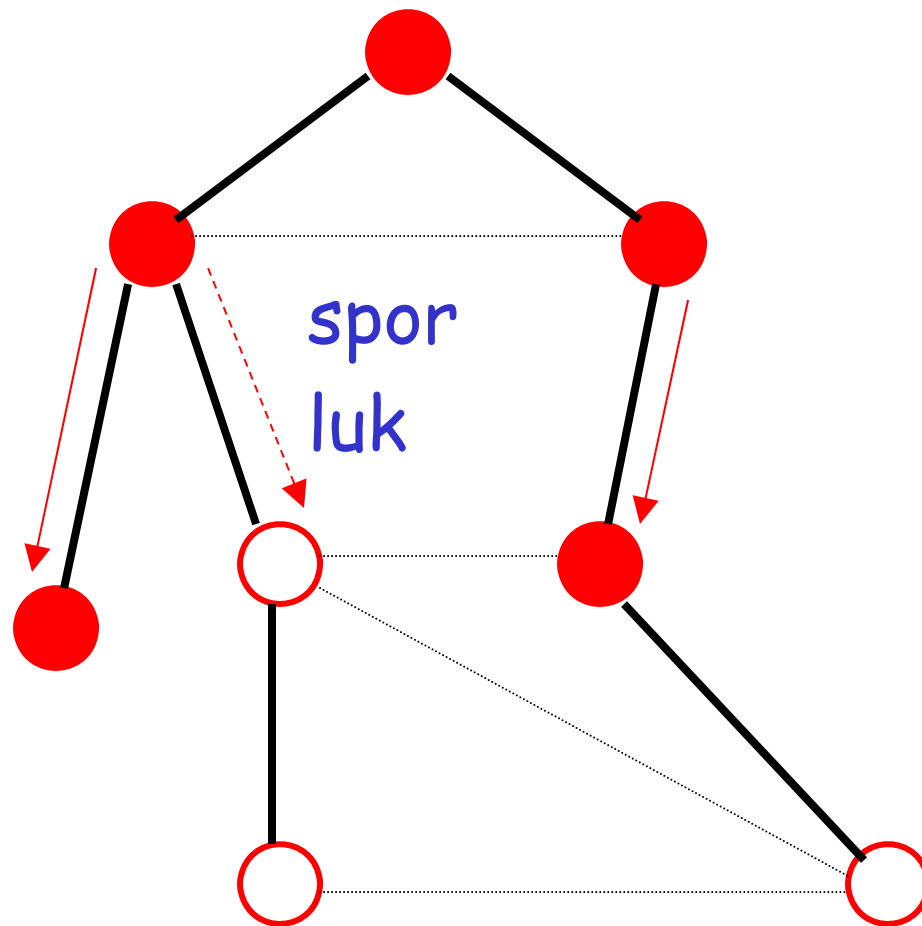
Broj poruka: $O(n)$

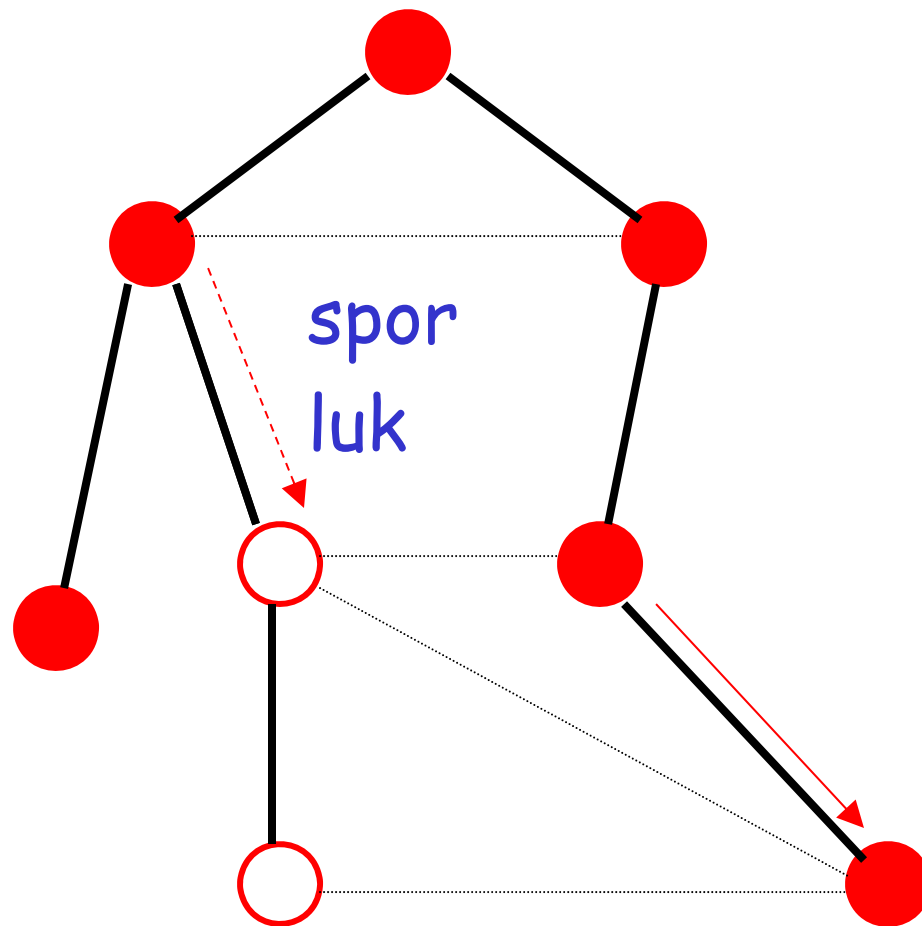
Asinhrono

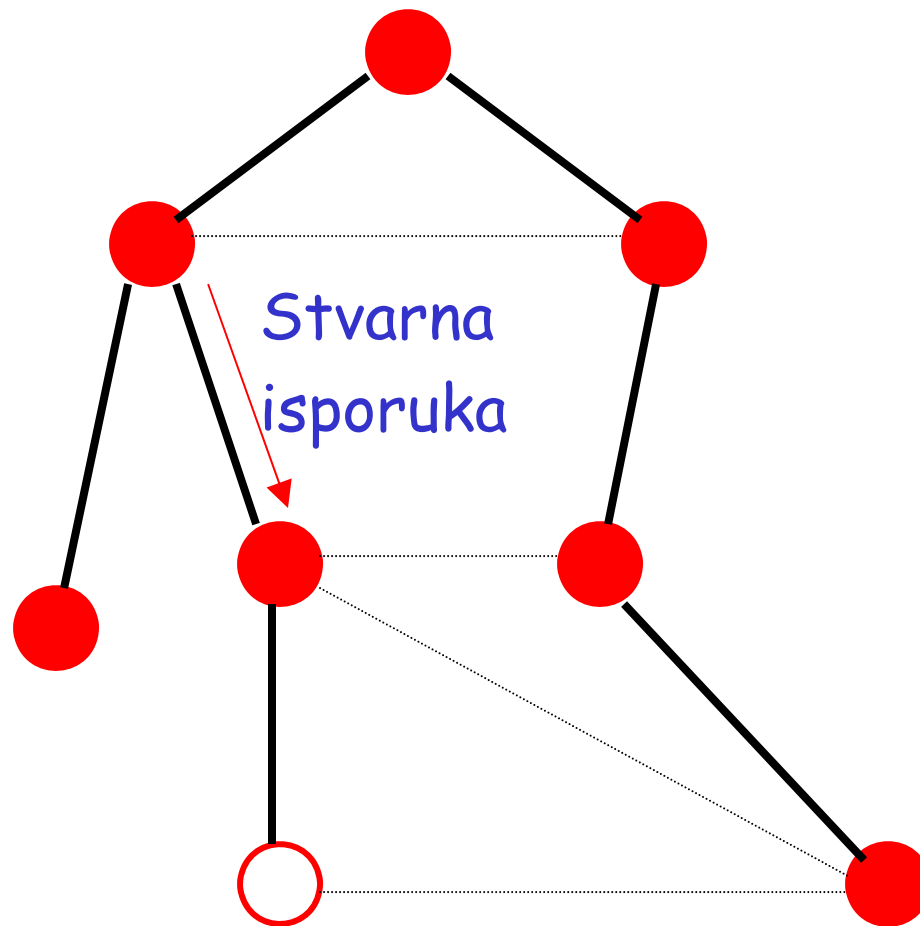


Lukovi i čvorovi mogu imati različita kašnjenja



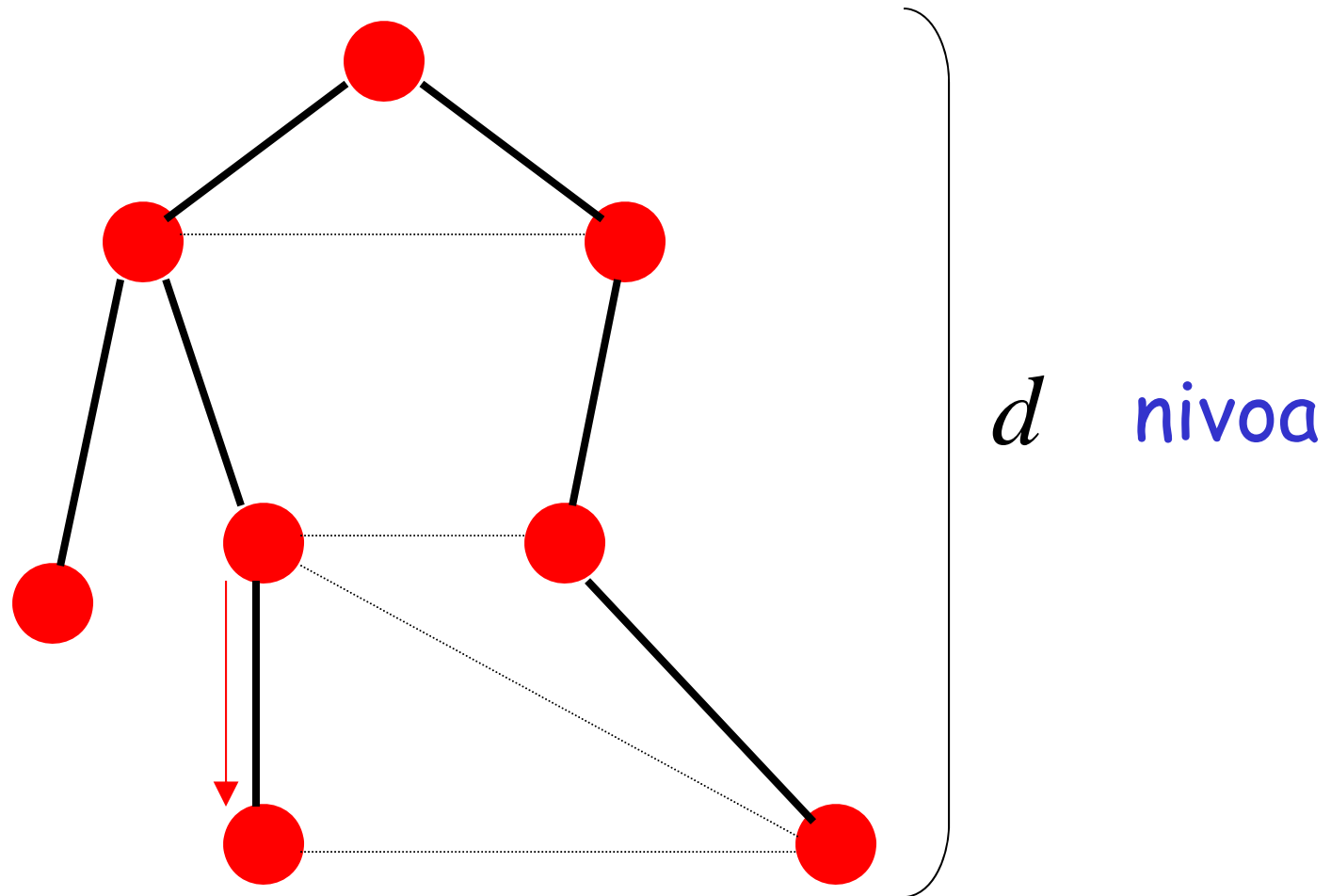








n čvorova

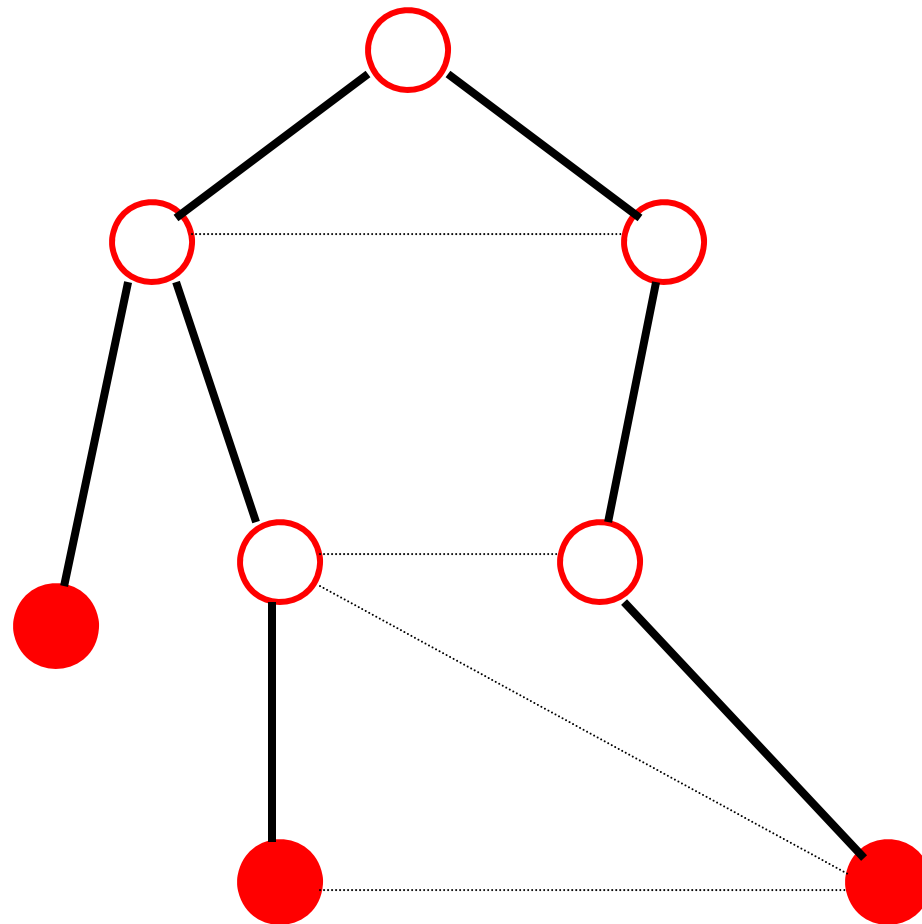


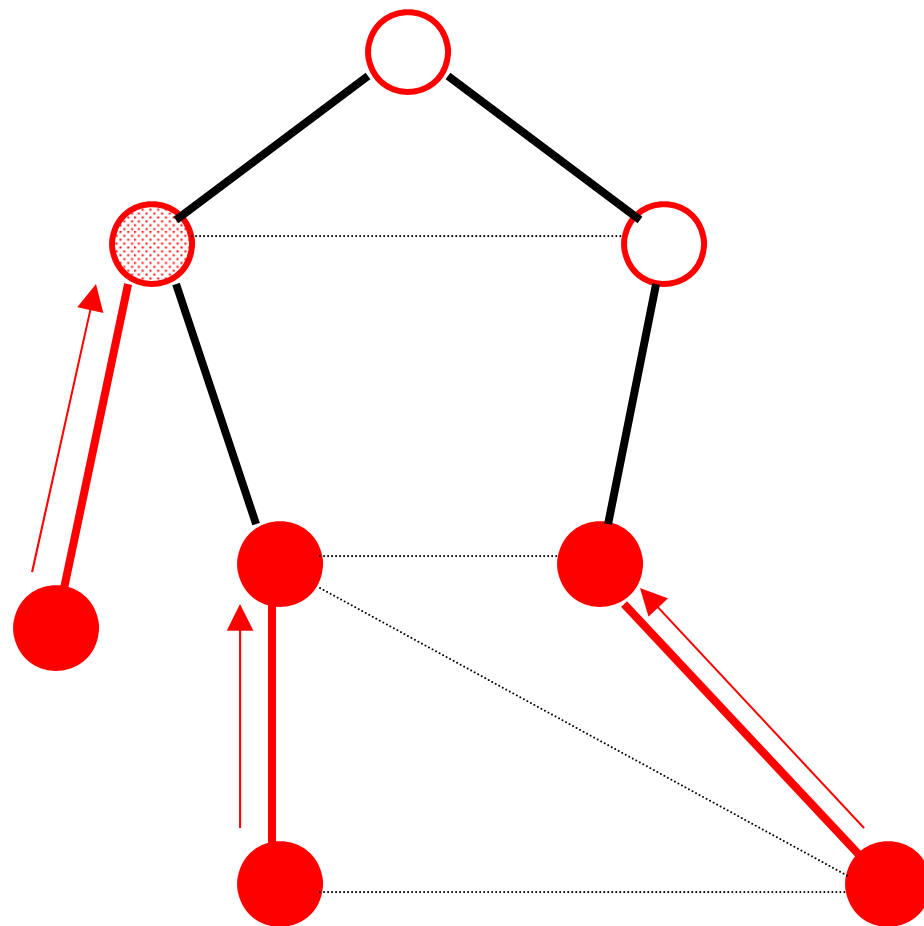
Vreme izvršenja: $O(d)$

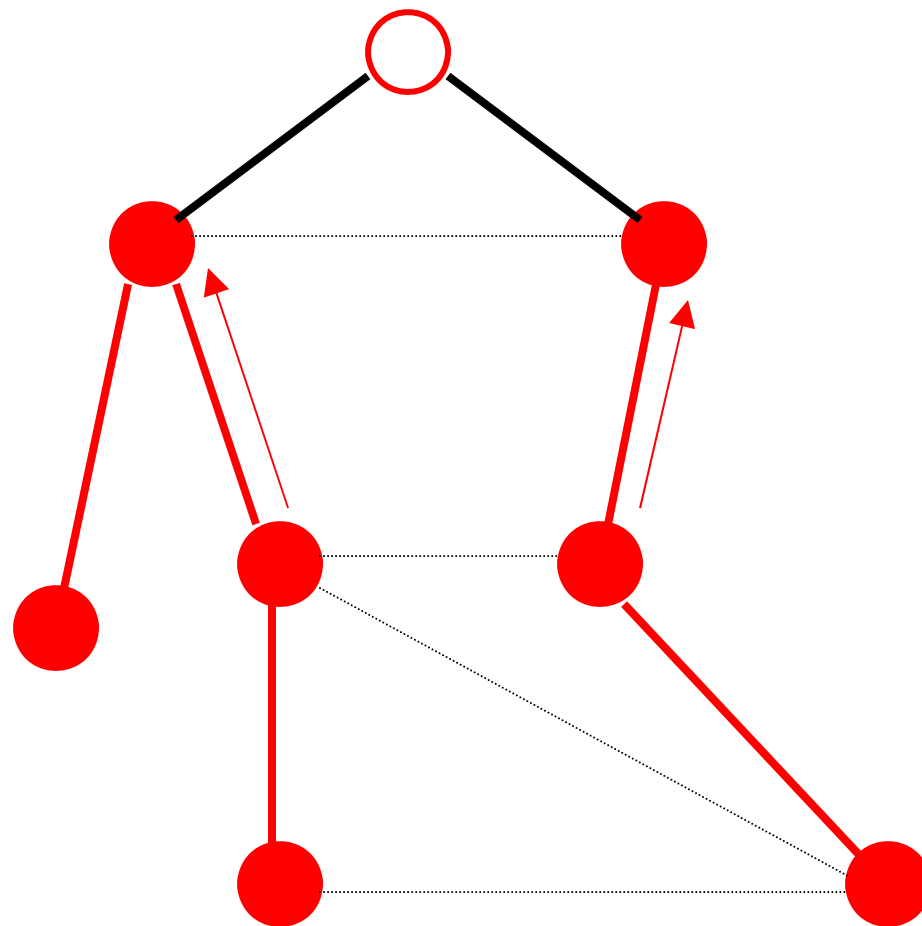
Broj poruka: $O(n)$

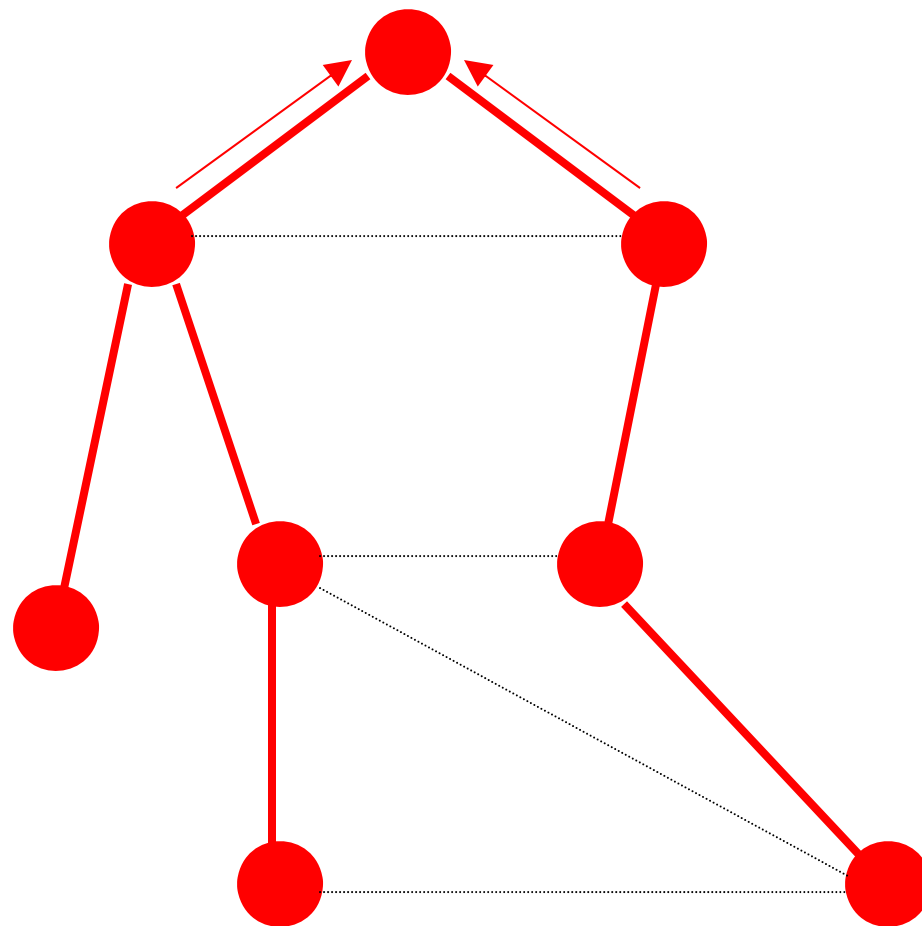
Prikupljanje od svih
(Convergecast)

Sinhrono

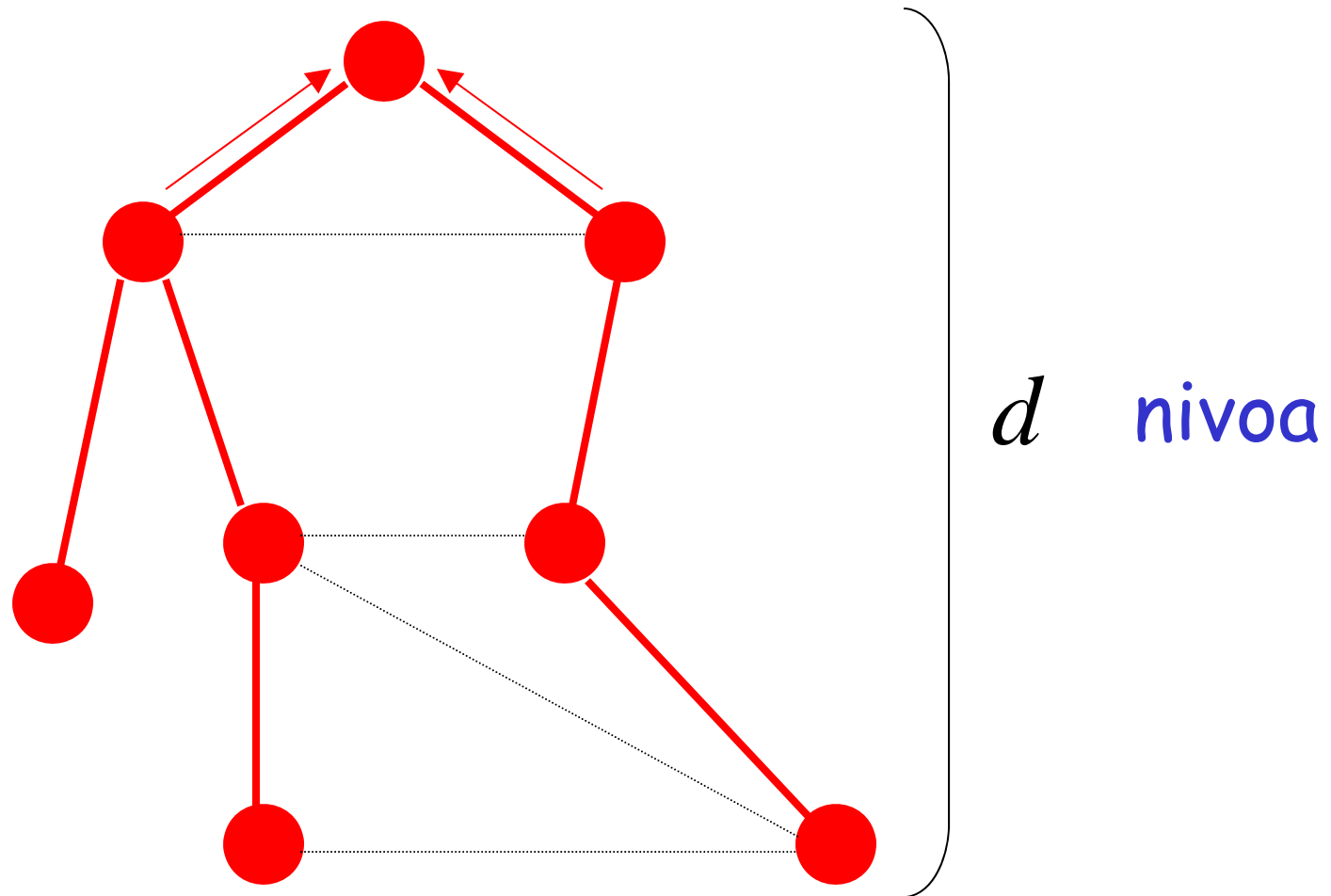








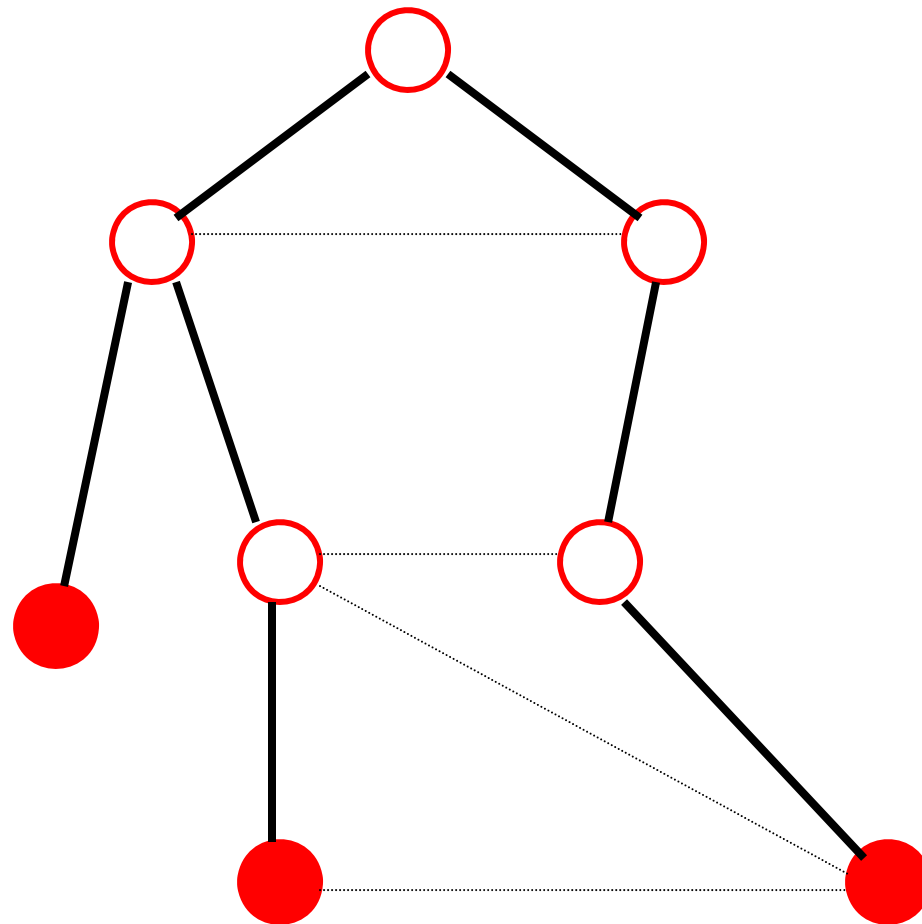
n čvorova

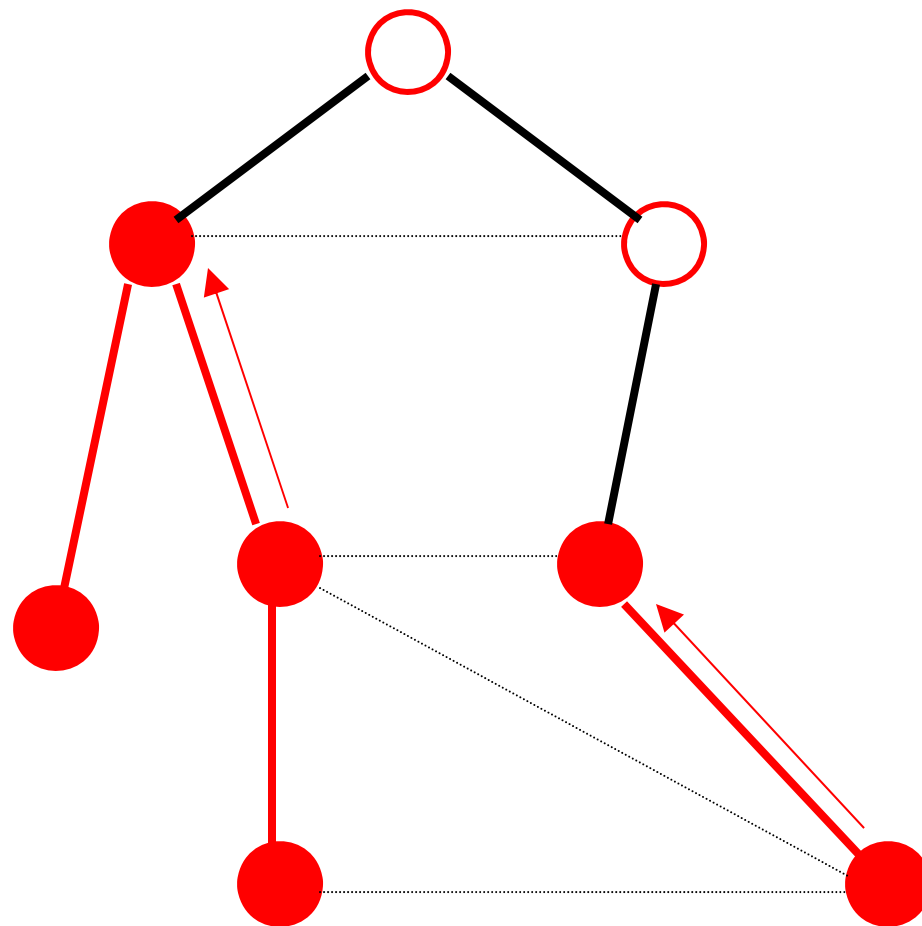


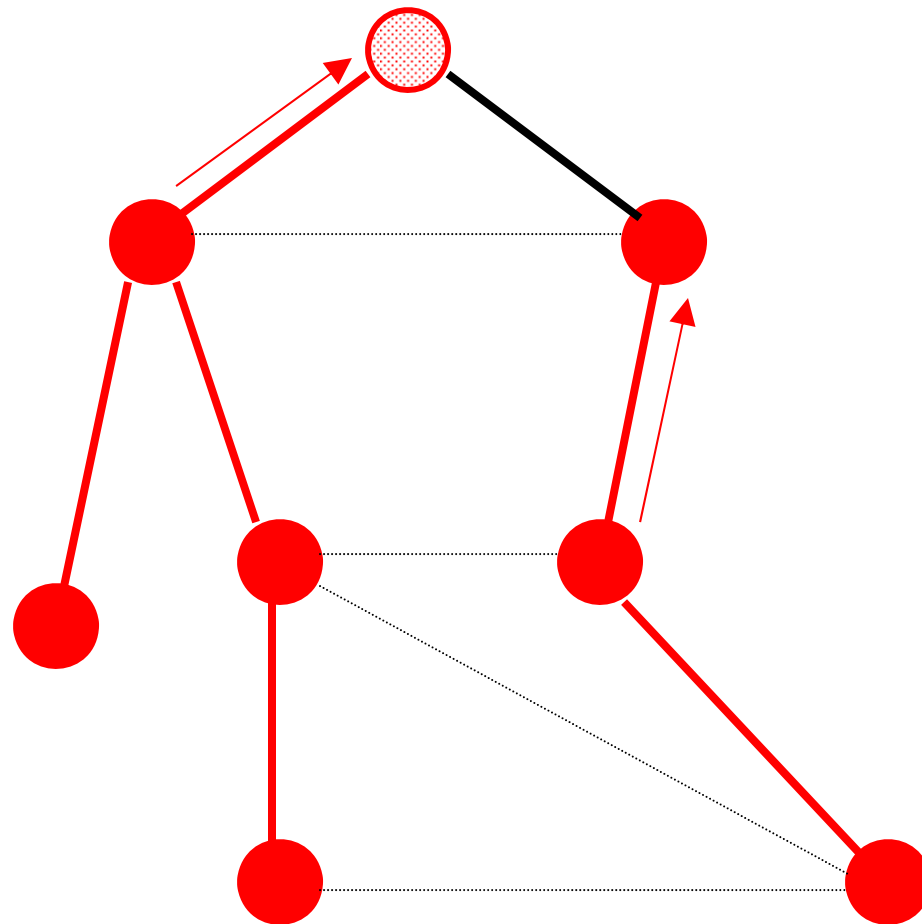
Vreme izvršenja: $O(d)$

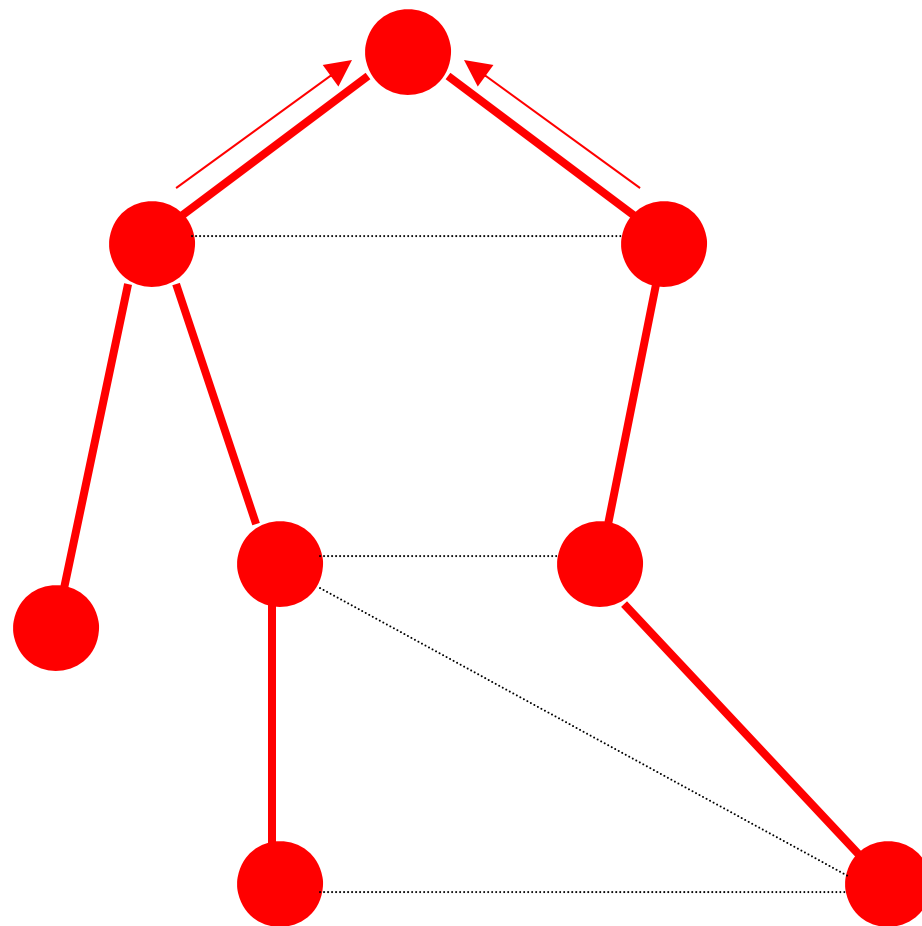
Broj poruka: $O(n)$

Asinhrono

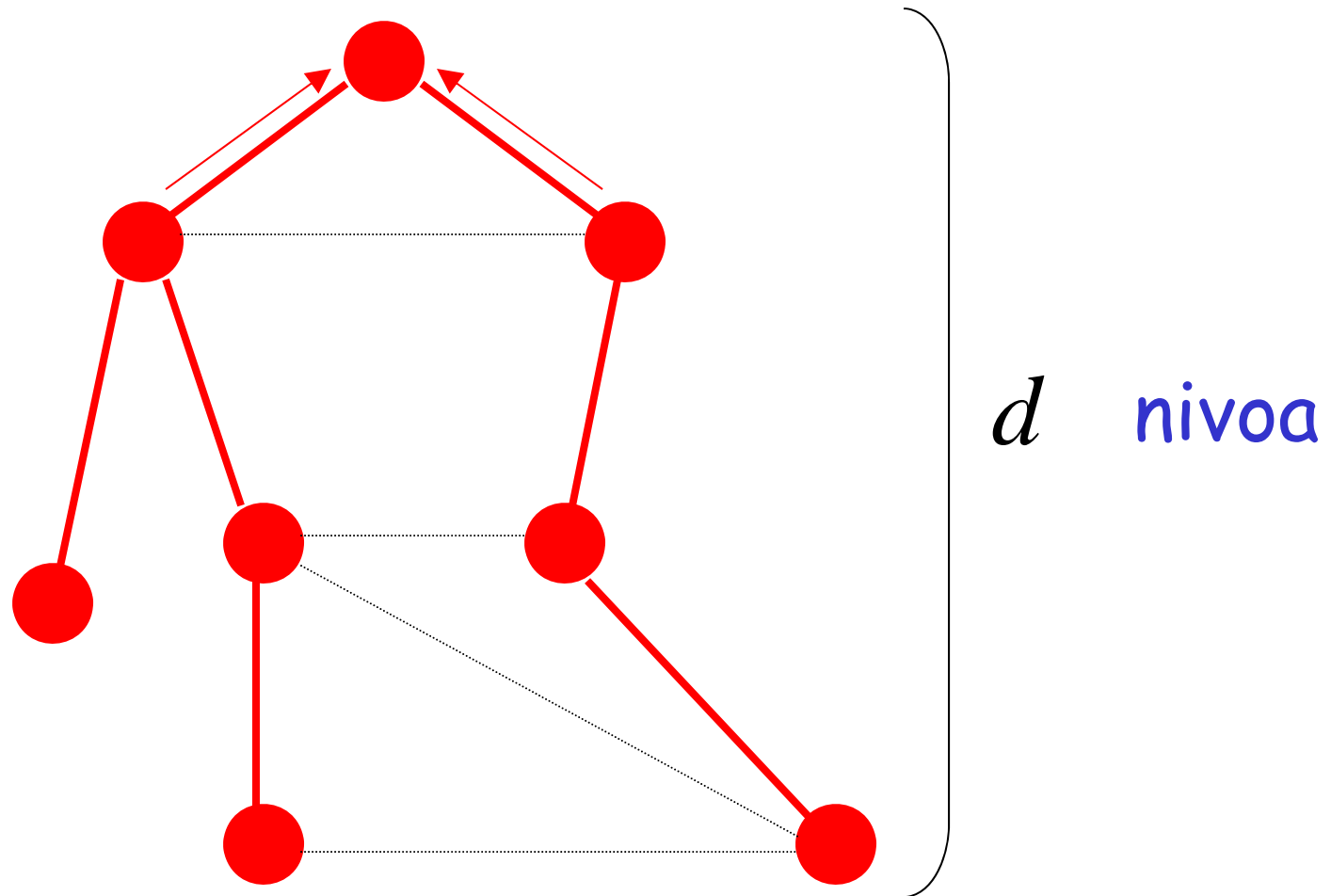








n čvorova



Vreme izvršenja: $O(d)$

Broj poruka: $O(n)$

Razapinjanje stabla pretragom po širini (BFS Spanning Tree)

Algoritam stabla za čvor u :

Nakon prijema poruke <invitation>
od susednog čvora v :

Ako nije član stabla:

prihvati poziv slanjem

poruke <accept> čvoru v ; (predak)

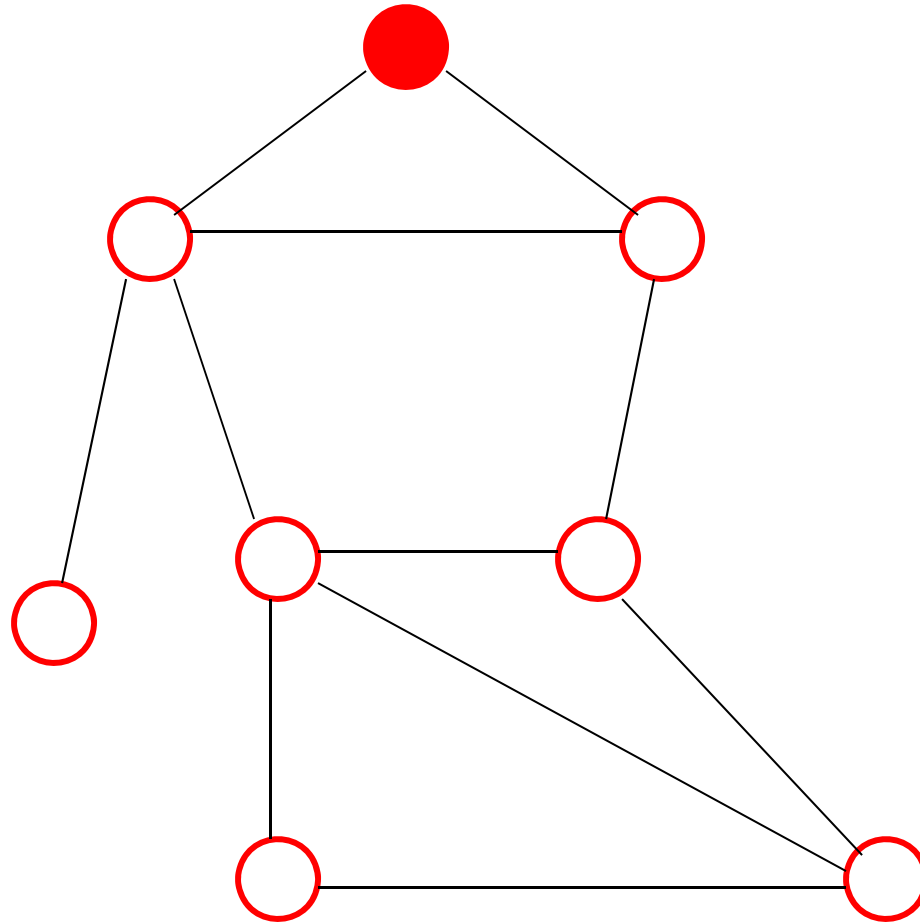
Pošalji pozivnice svim susedima, osim v

Ako jeste član stabla:

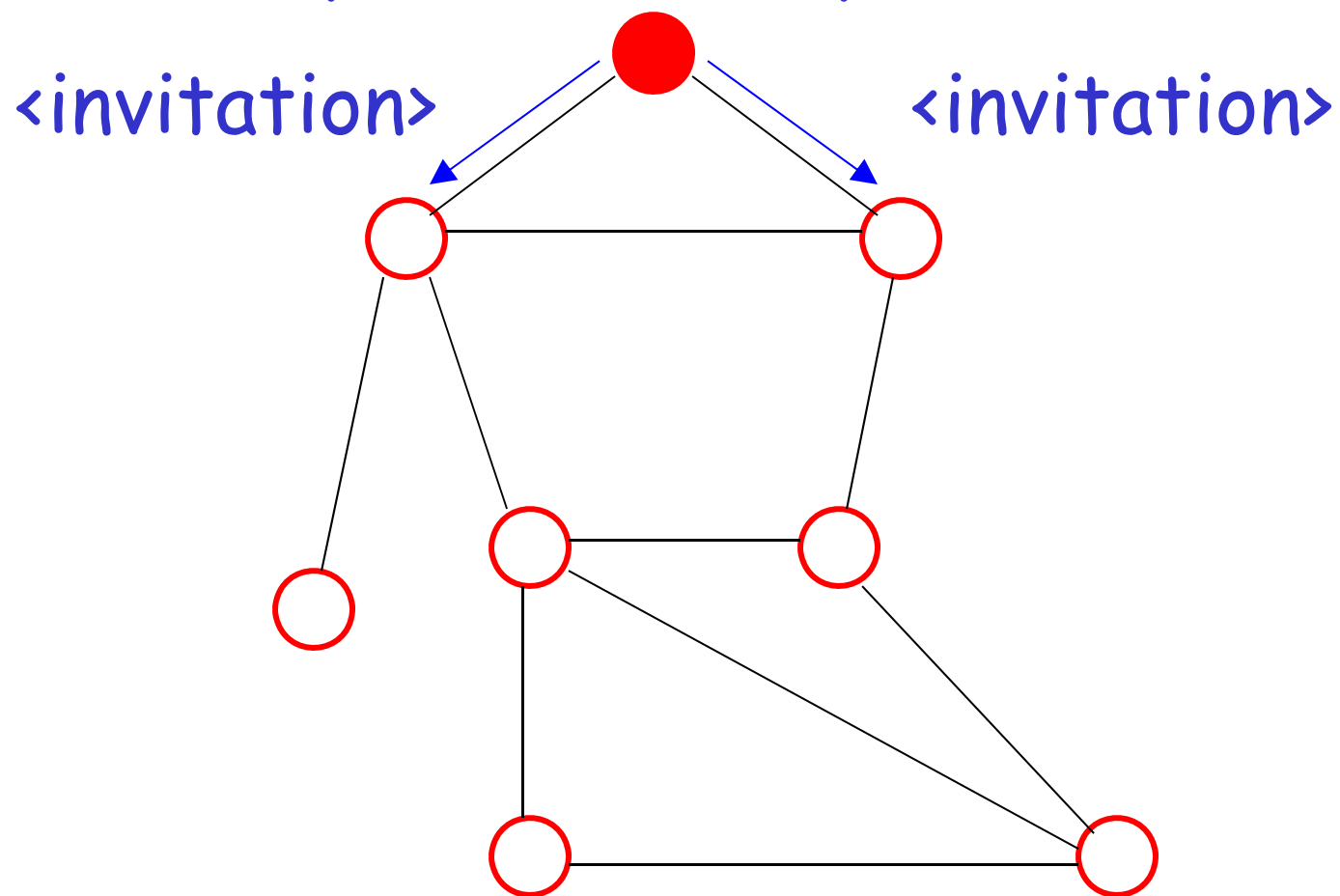
odbi poziv slanjem

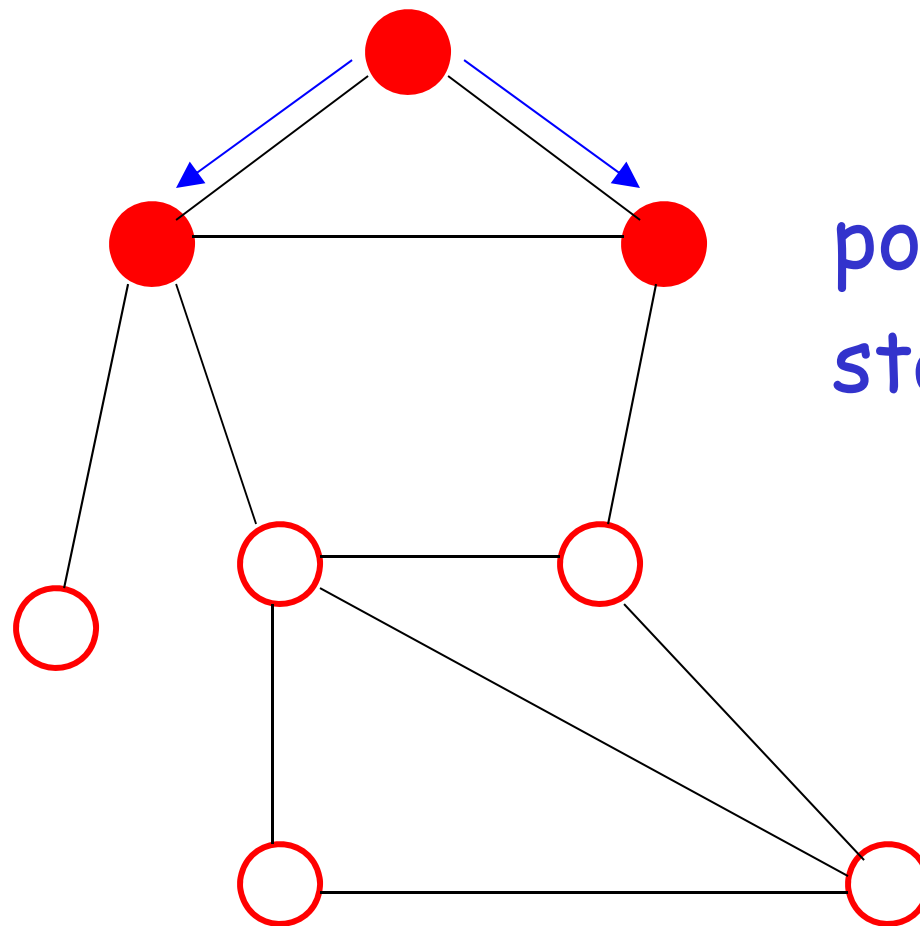
poruke <reject> čvoru v ;

Sinhrono

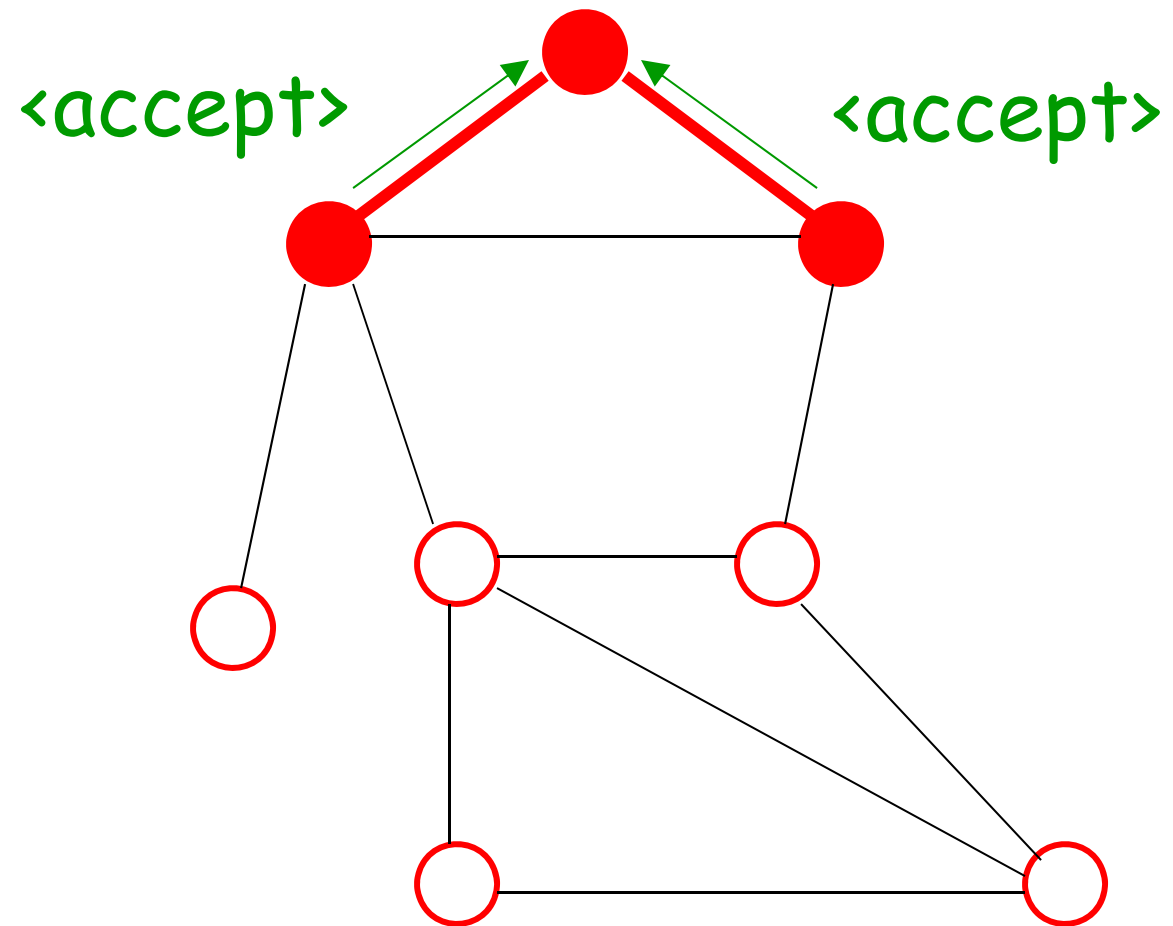


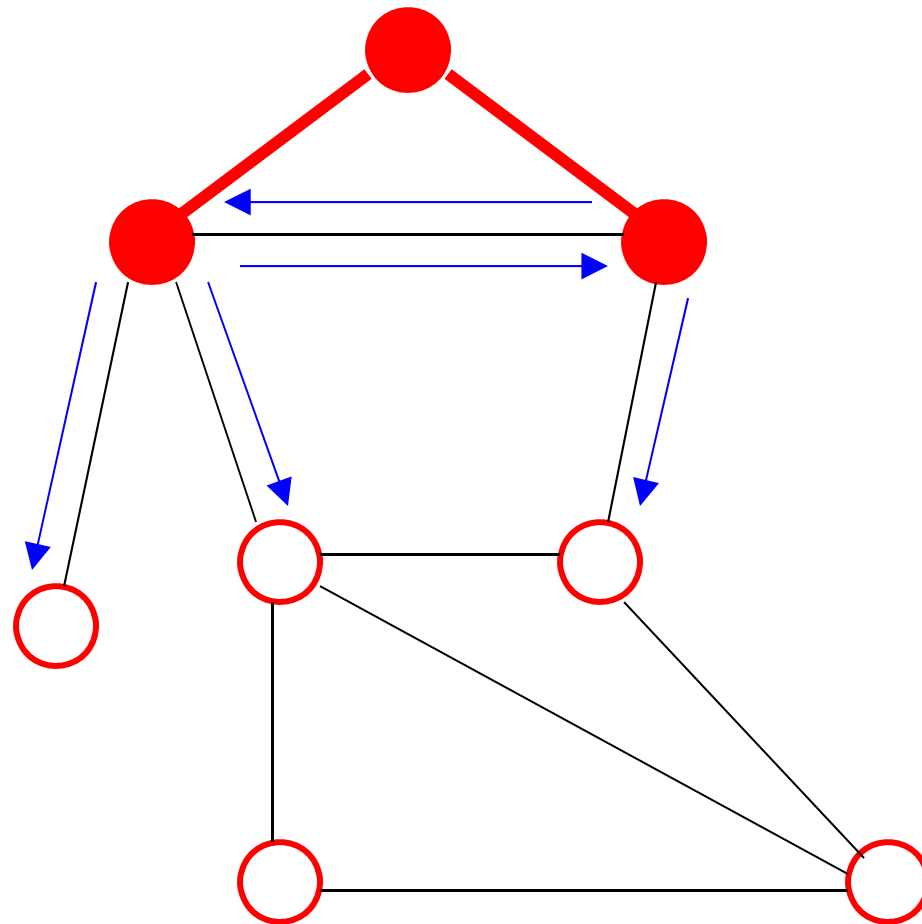
Čvor pokreće BFS proces

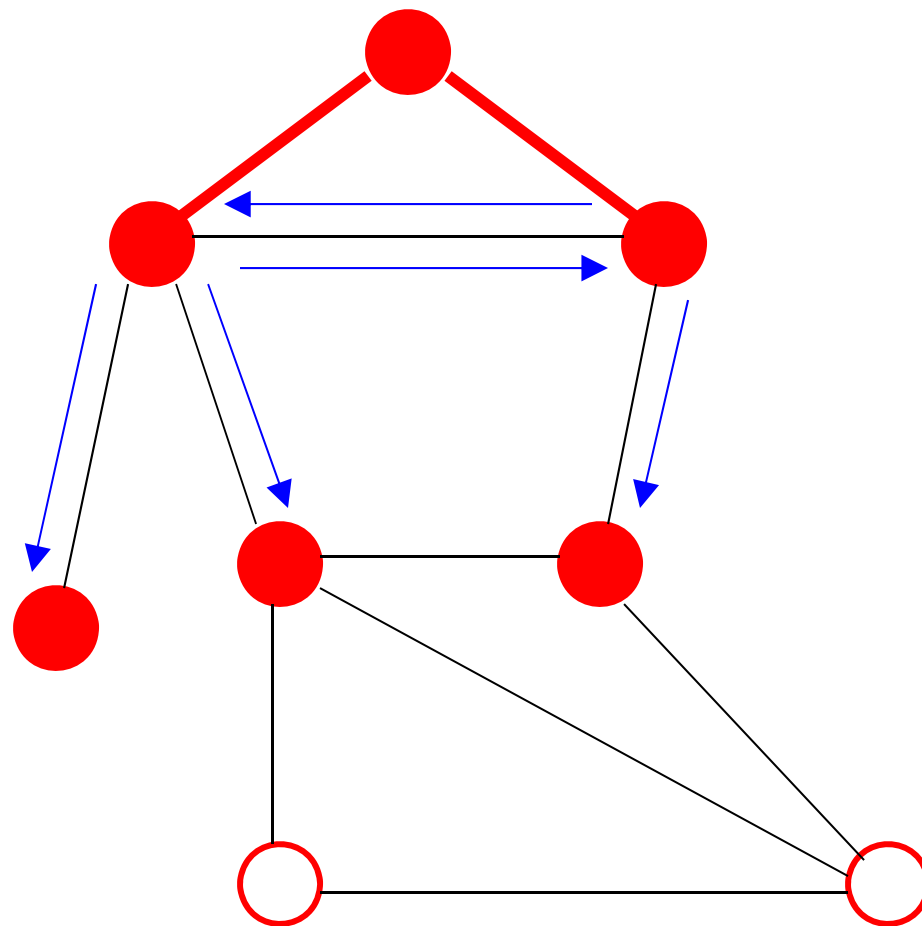


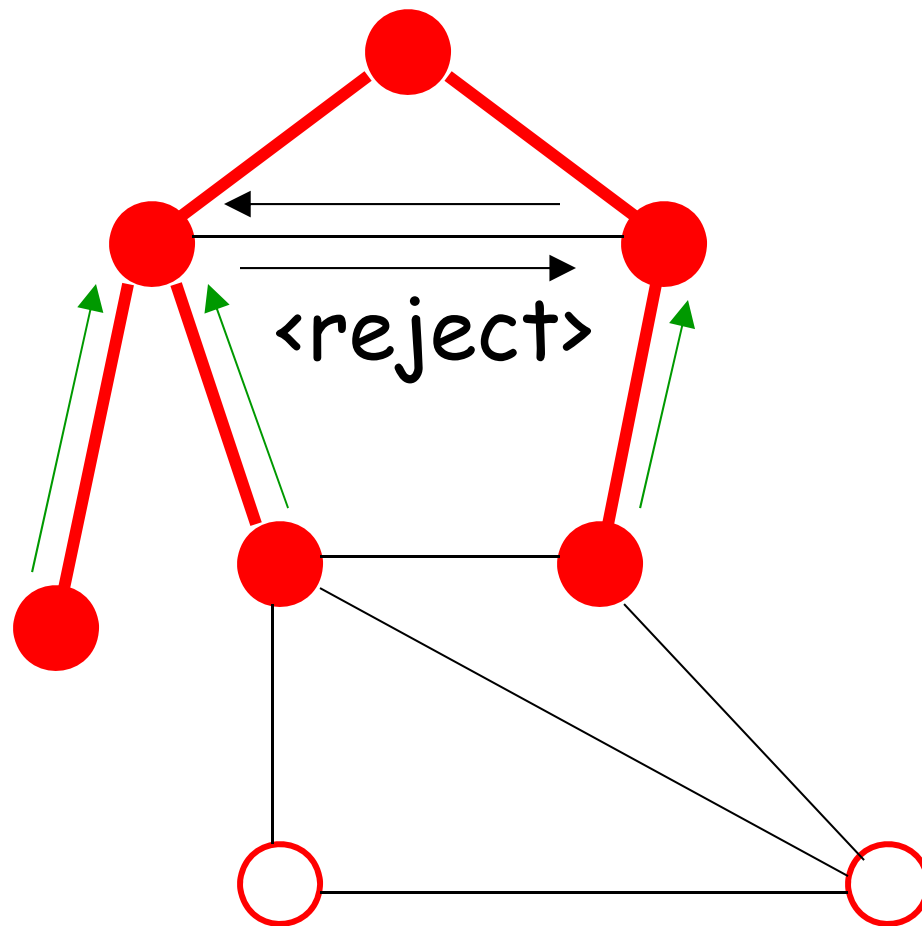


postaju članovi
stabla

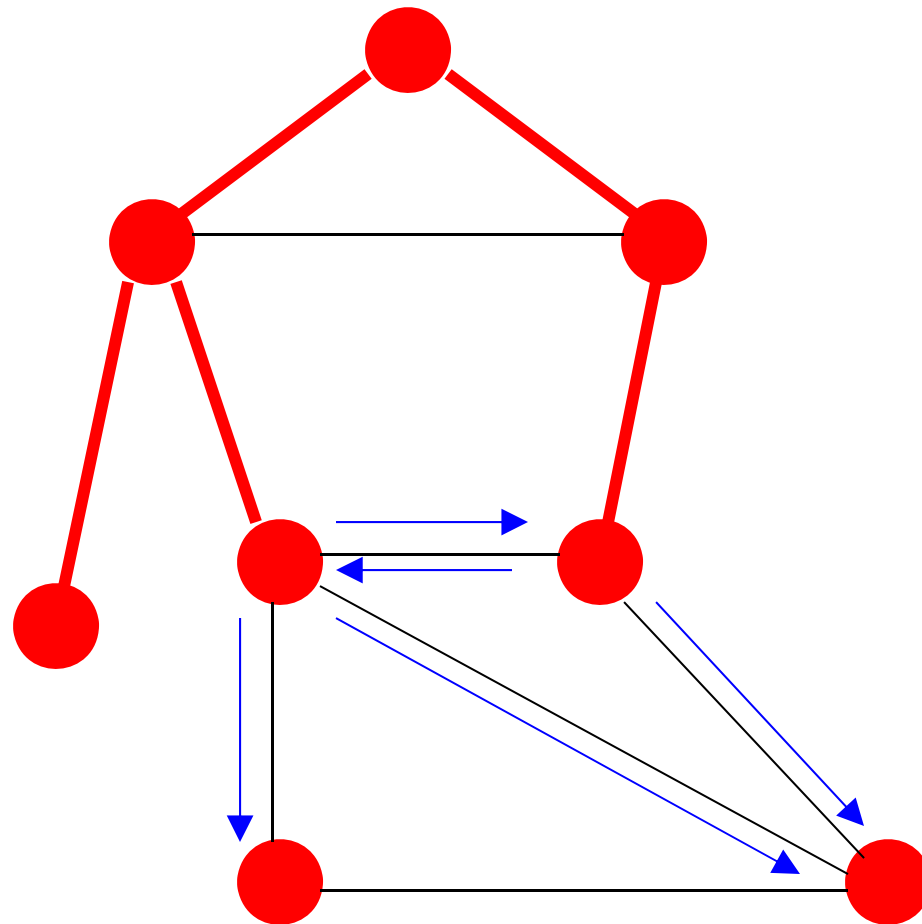


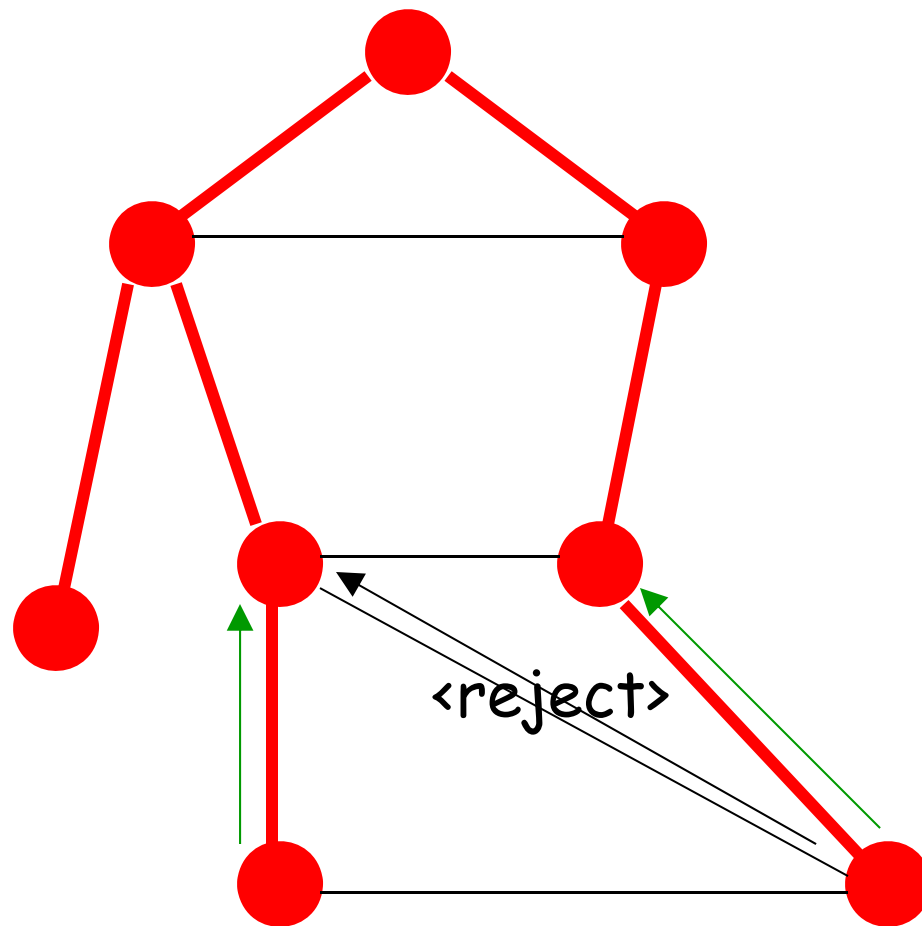


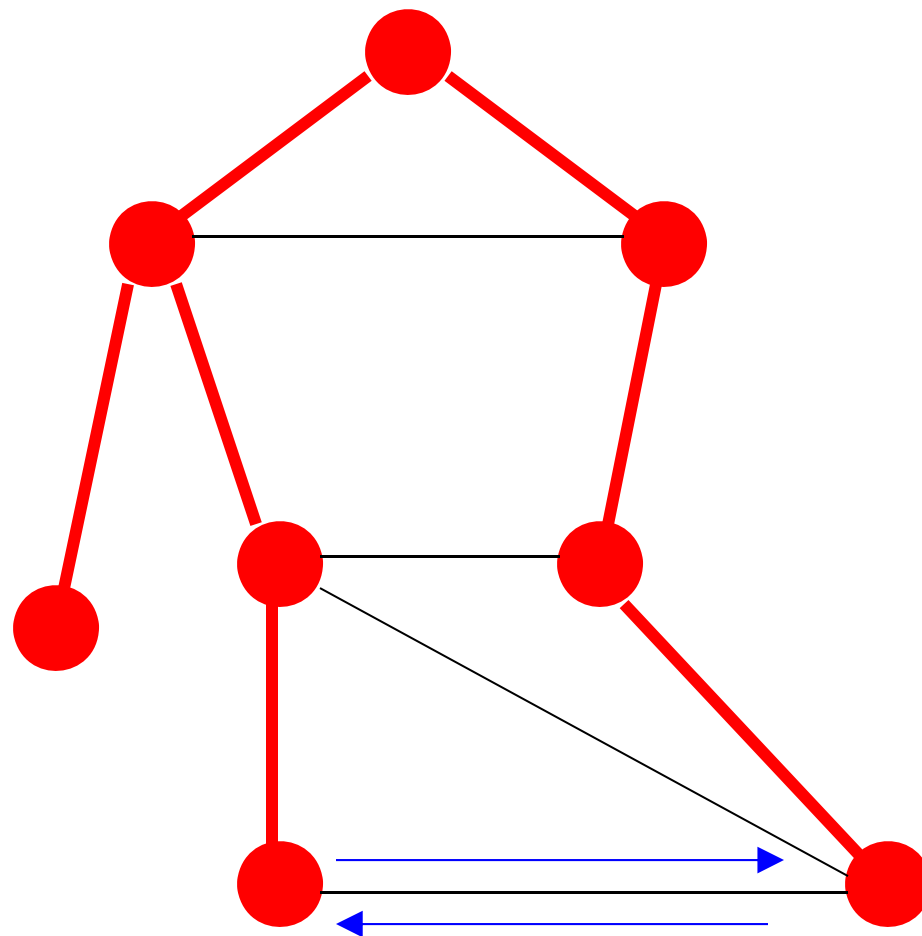




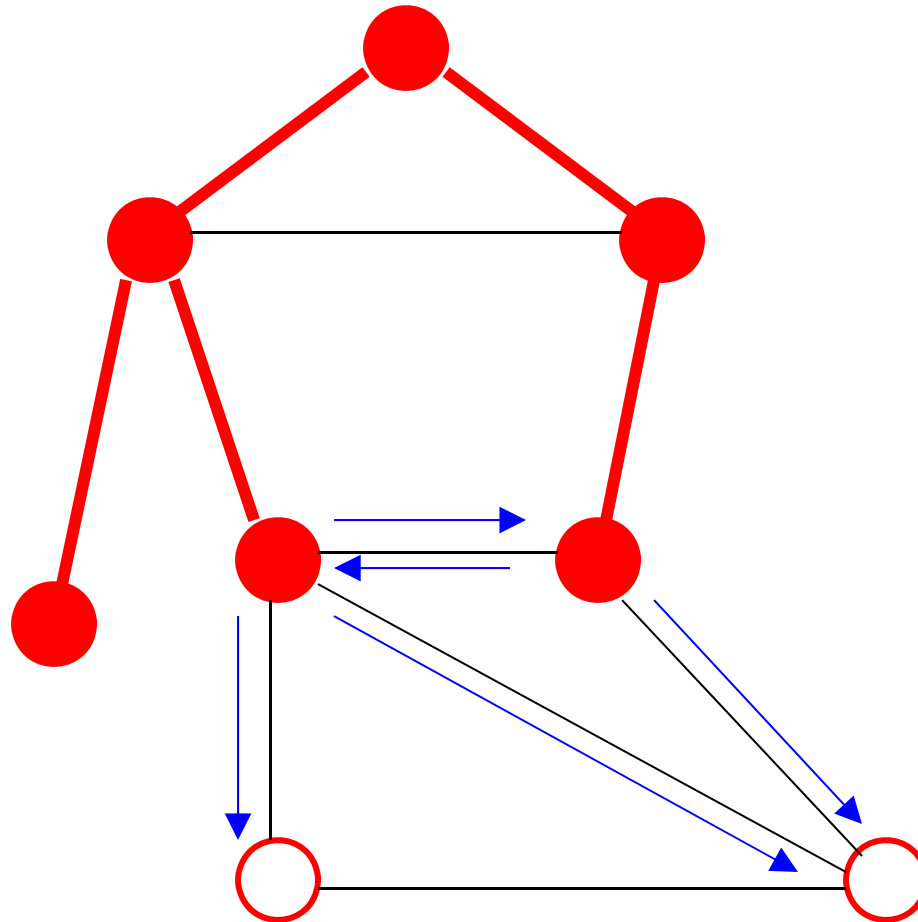


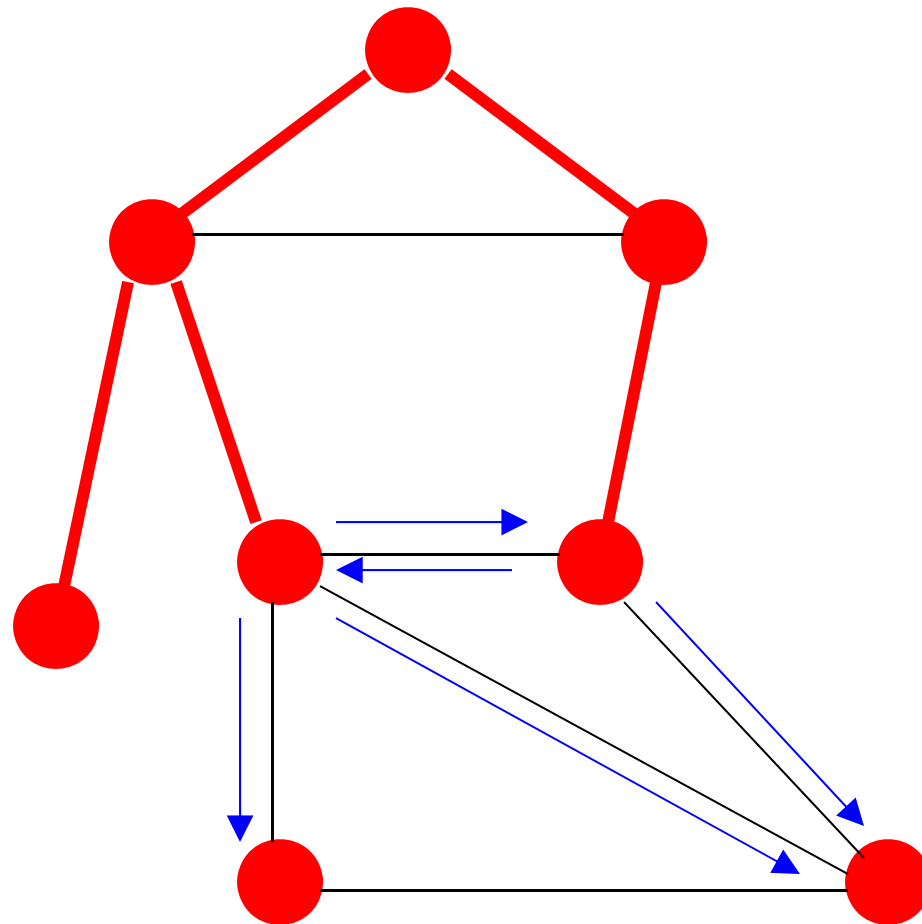


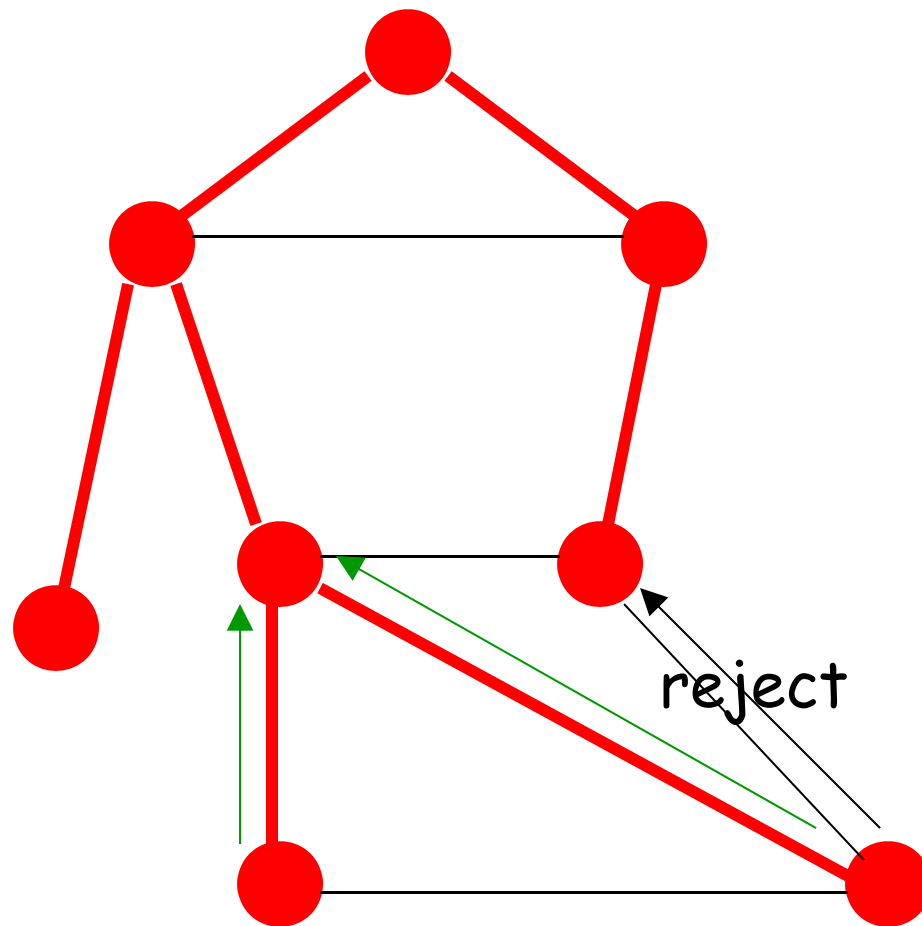


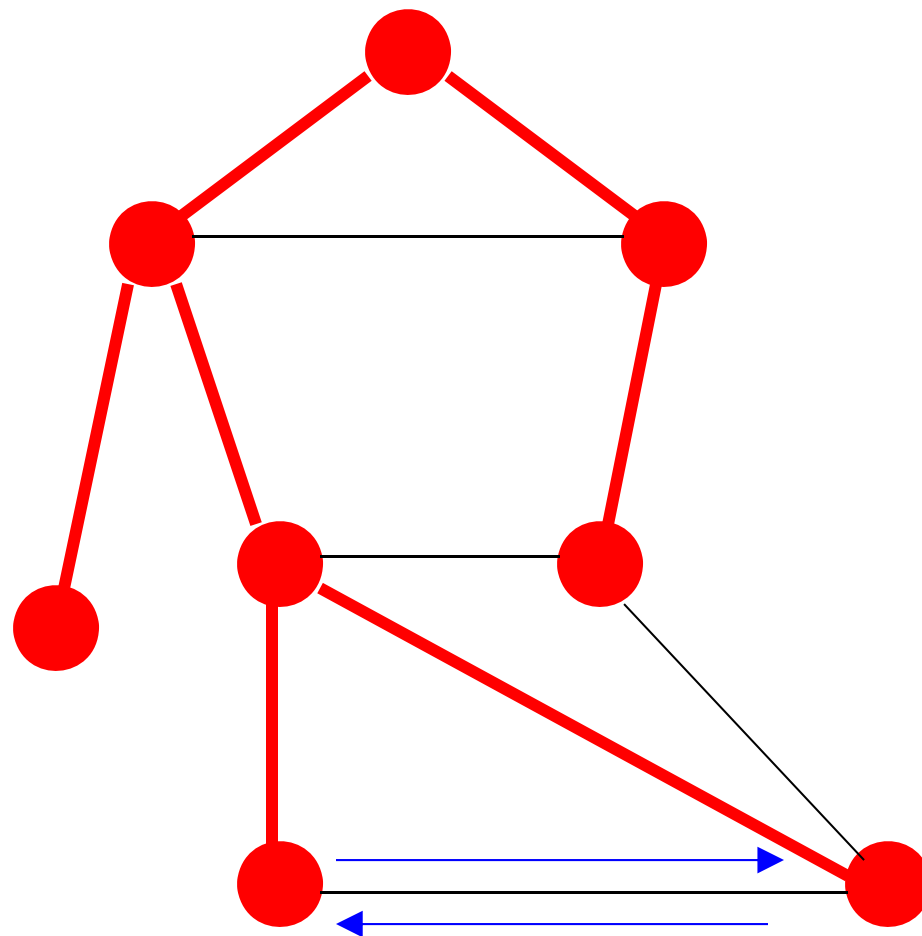


Alternativno rešenje

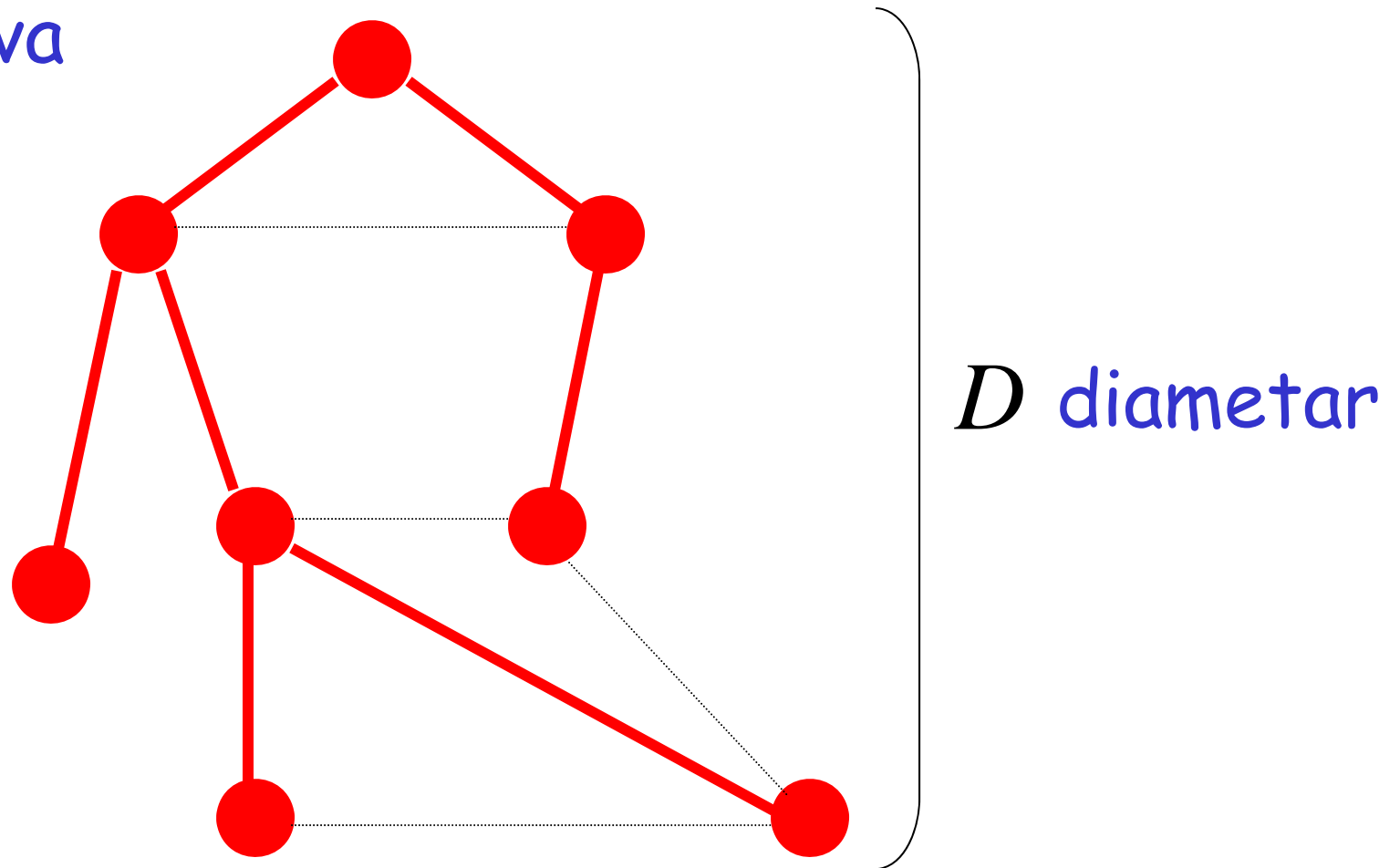








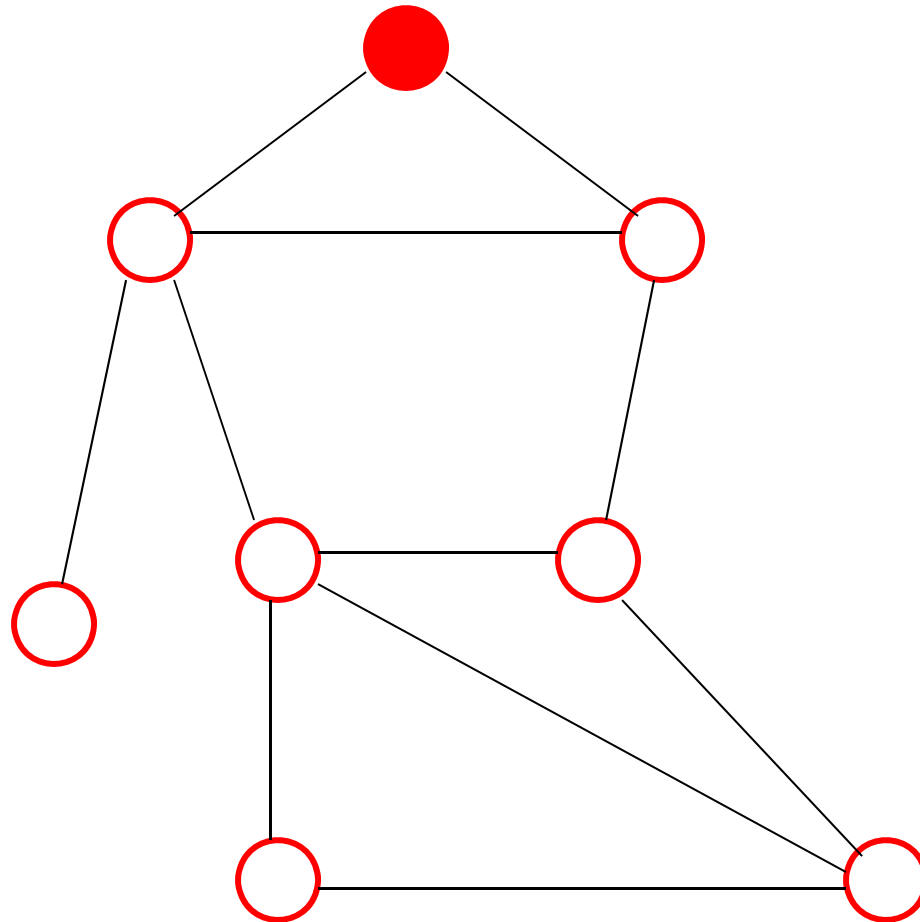
n čvorova
 m lukova

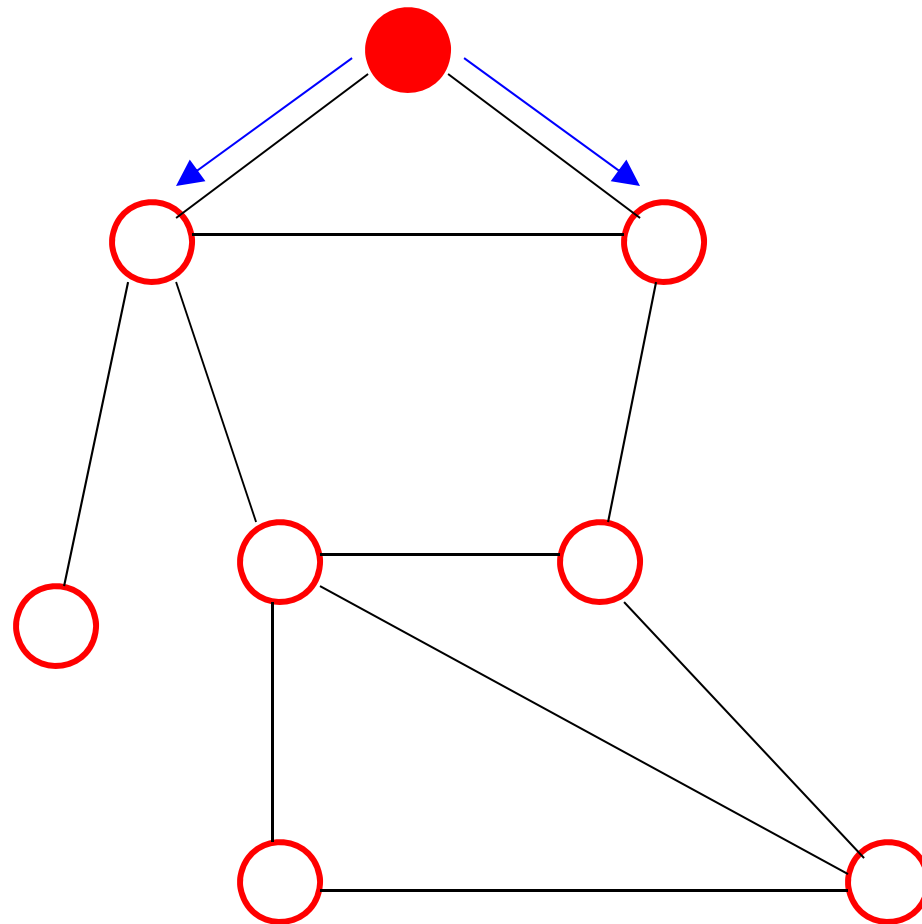


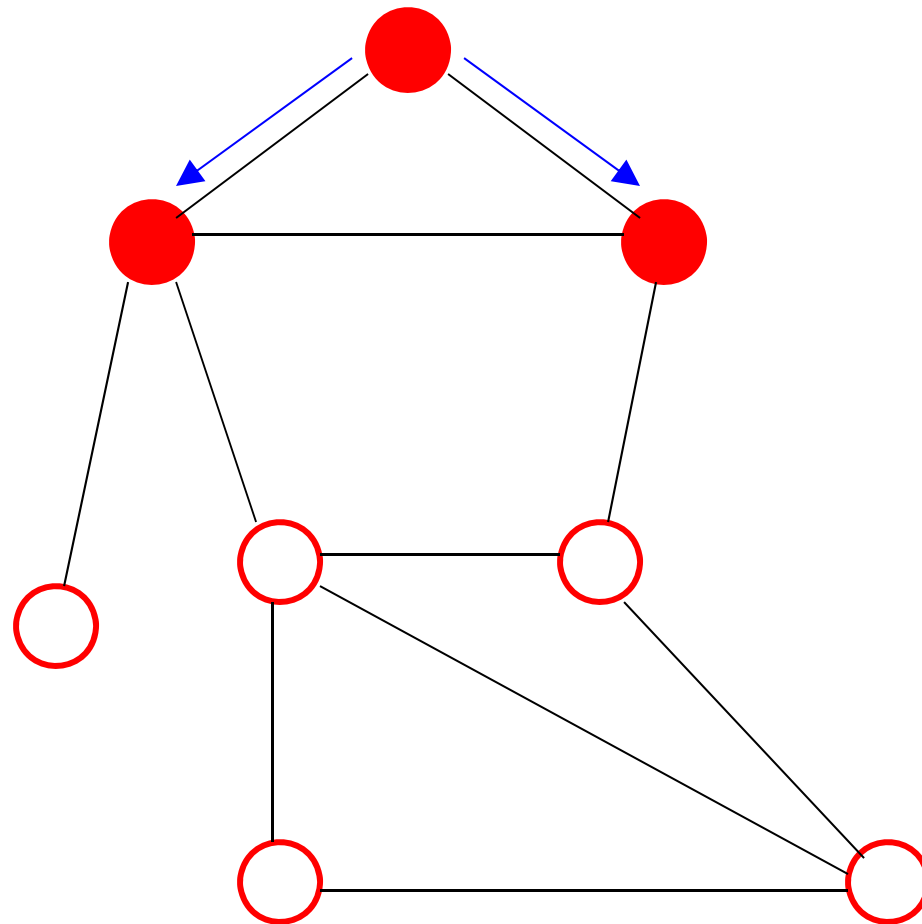
Vreme izvršenja: $O(D)$

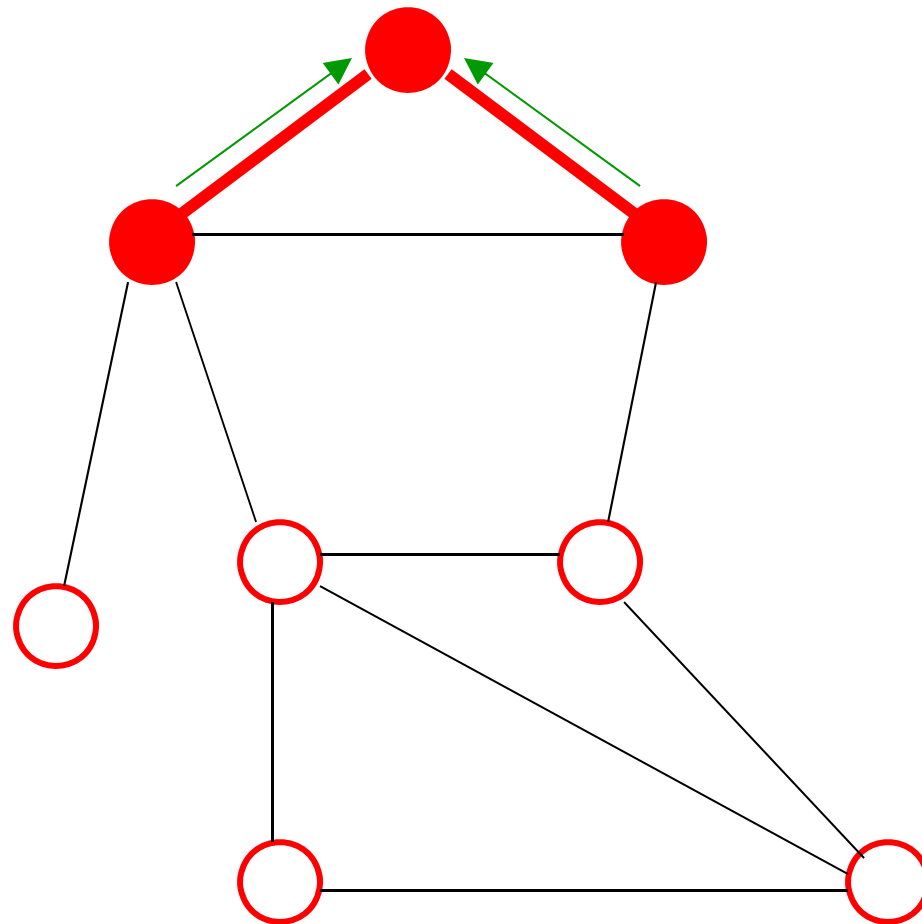
Broj poruka: $O(m)$

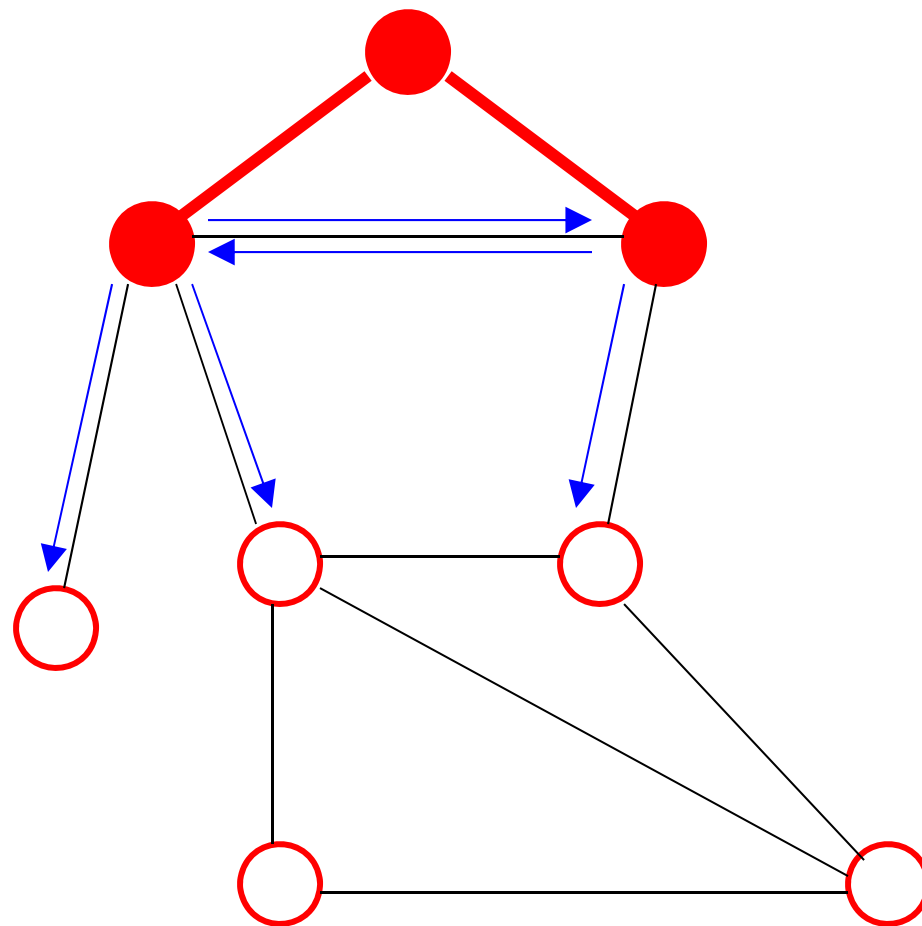
Asinhrono

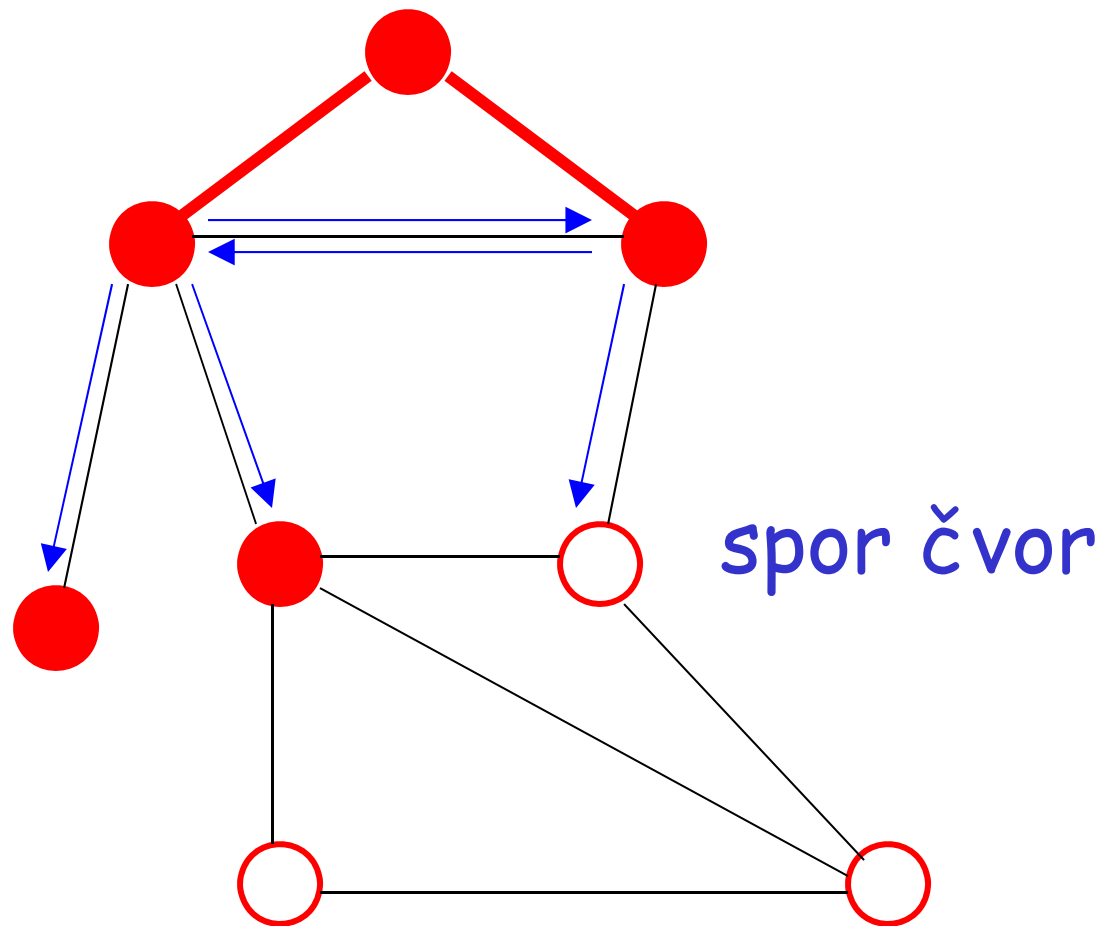


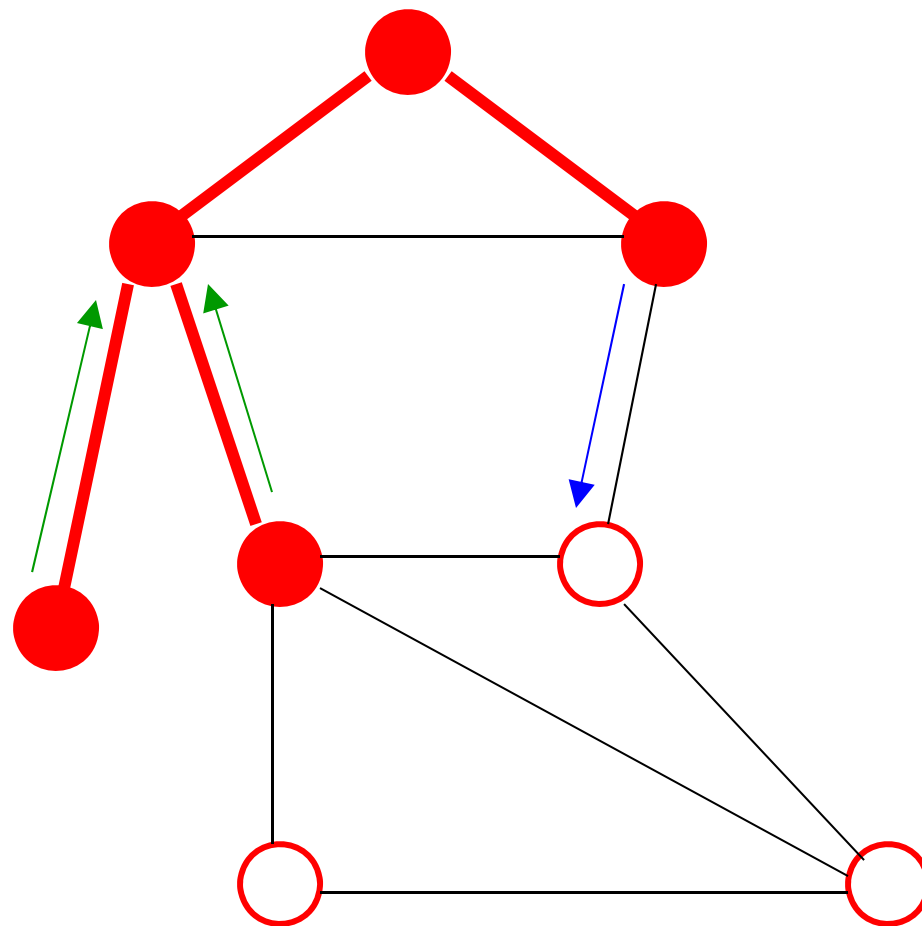


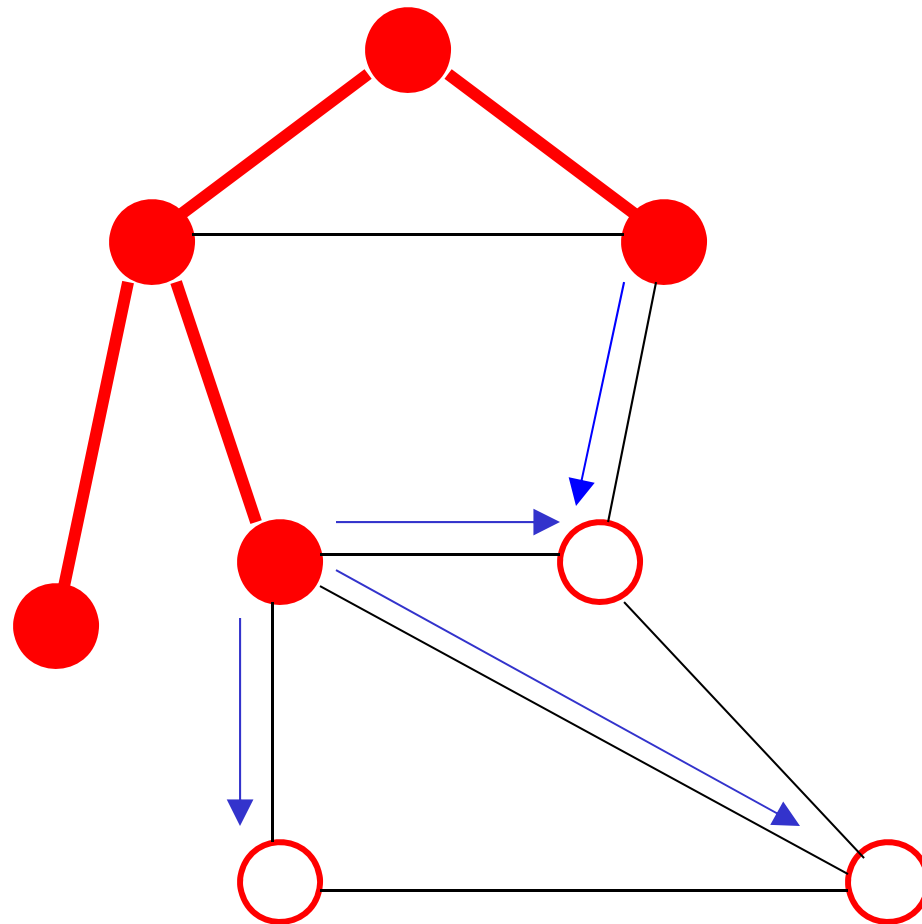


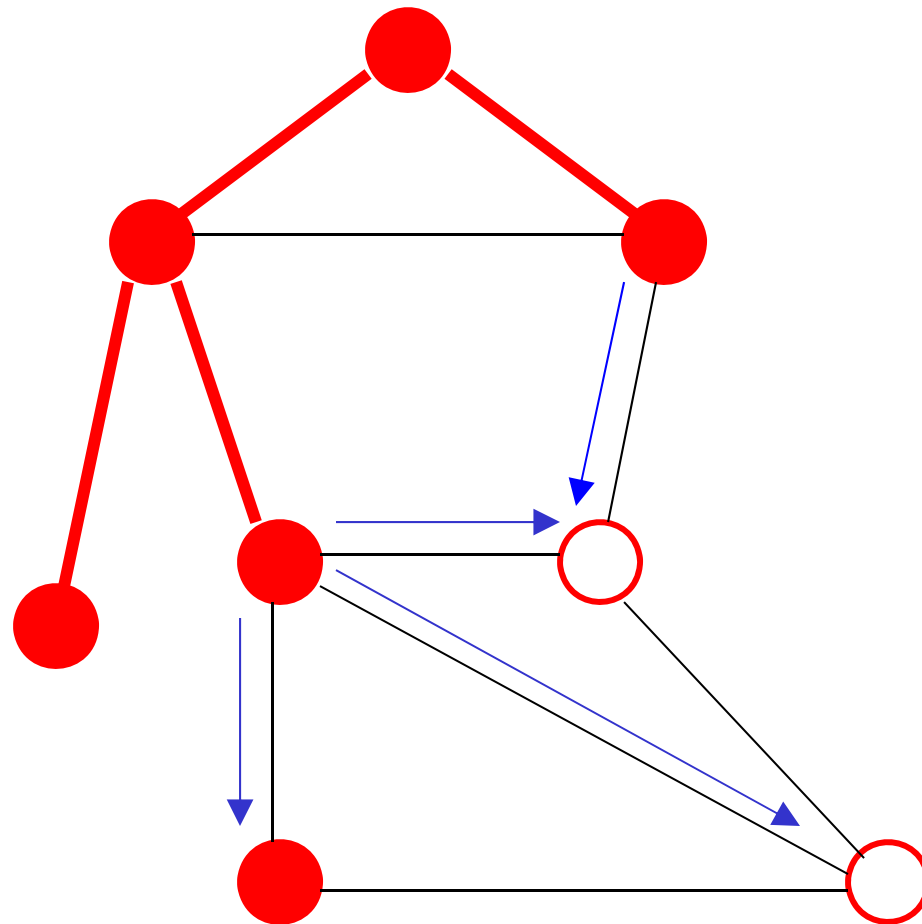


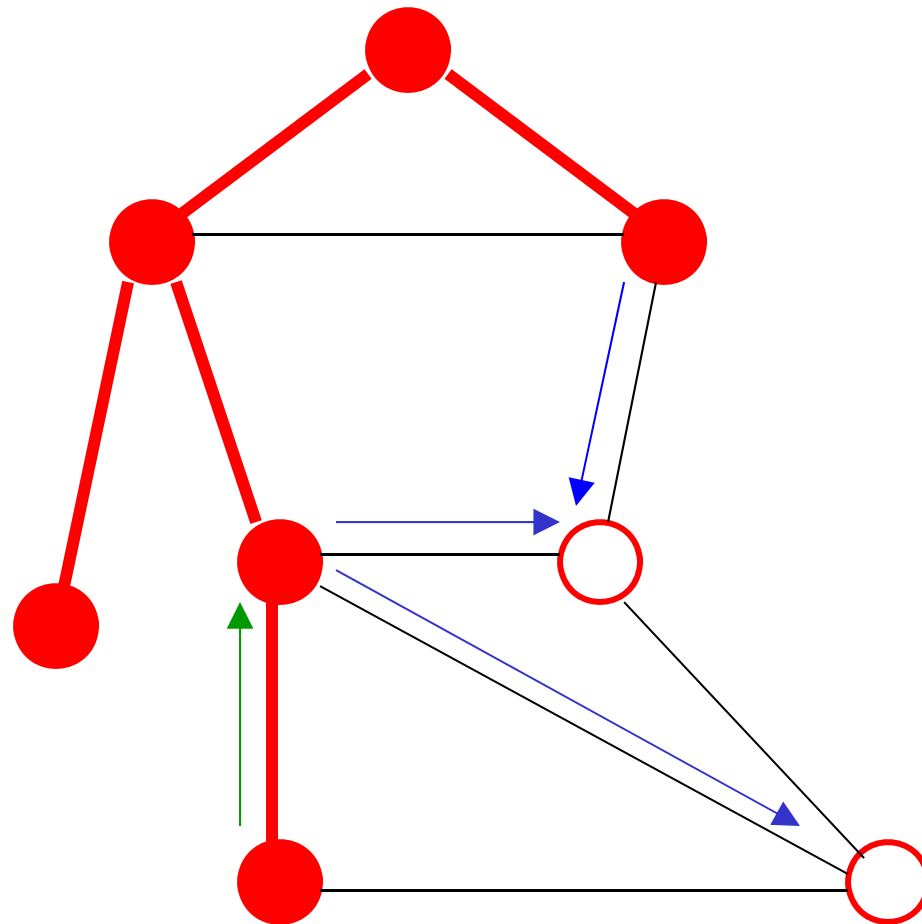


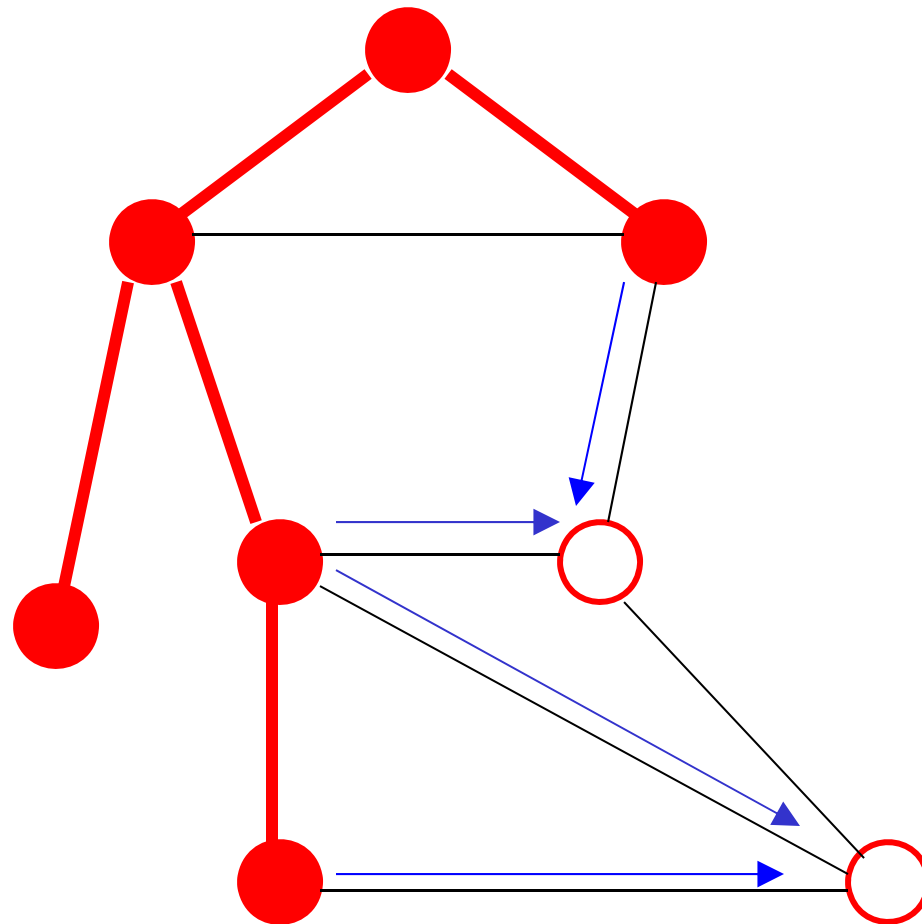


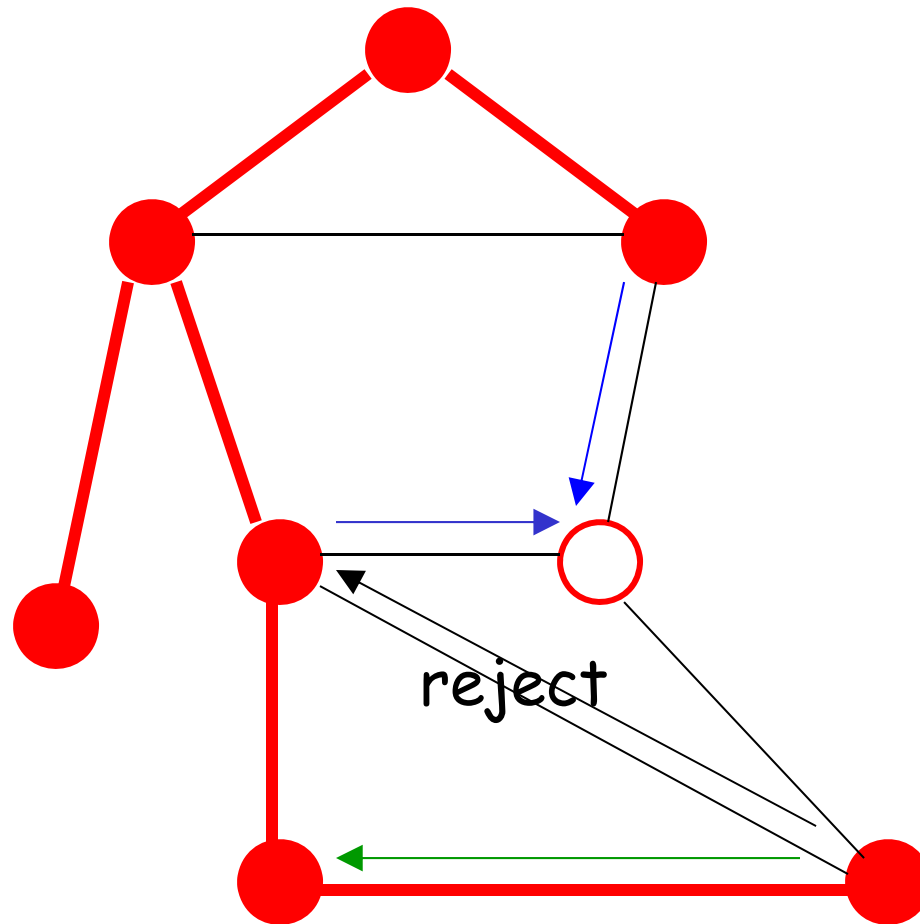


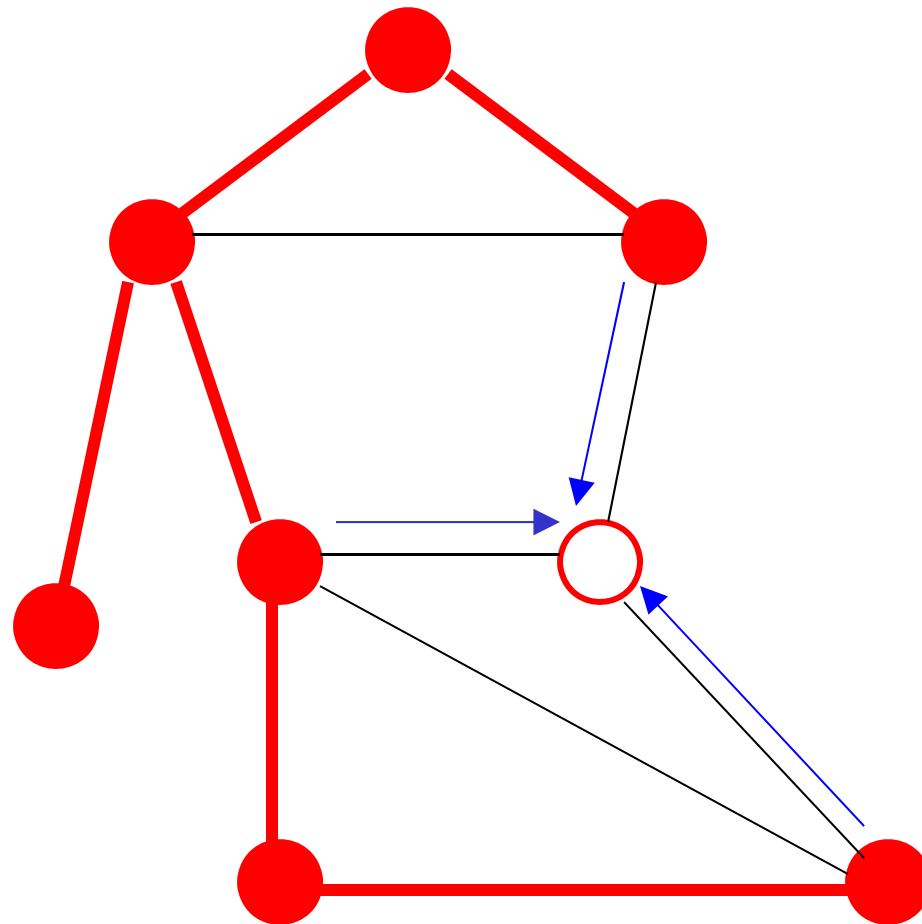


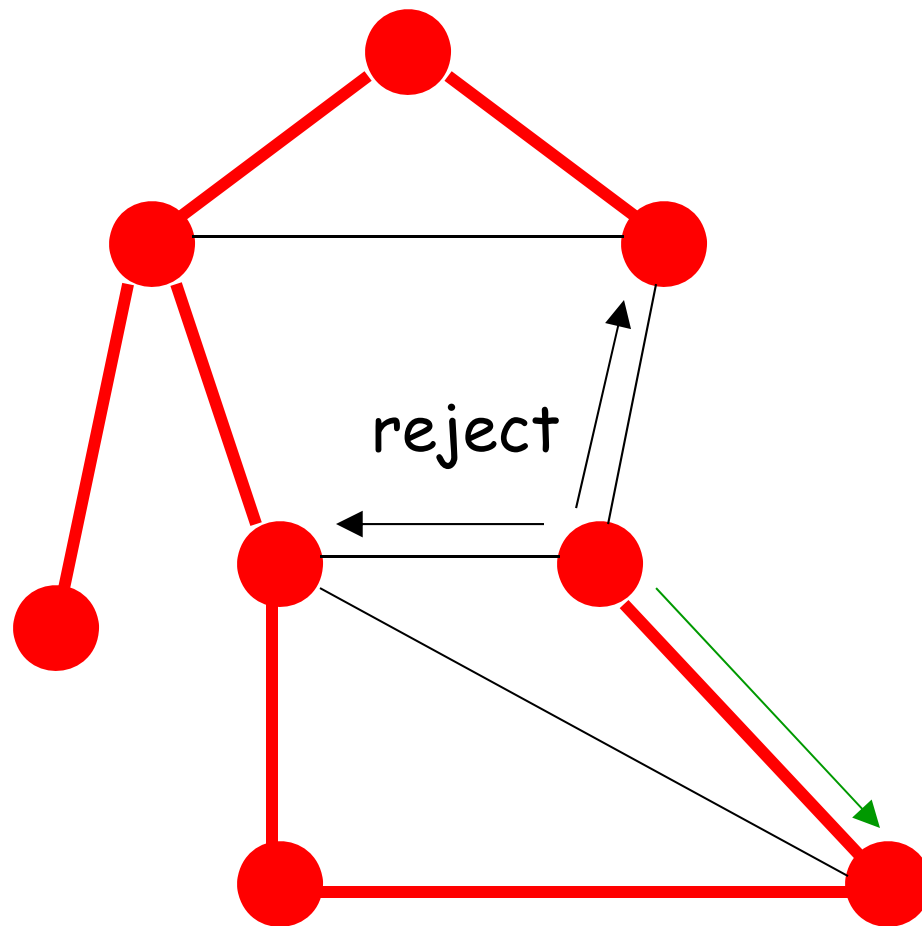


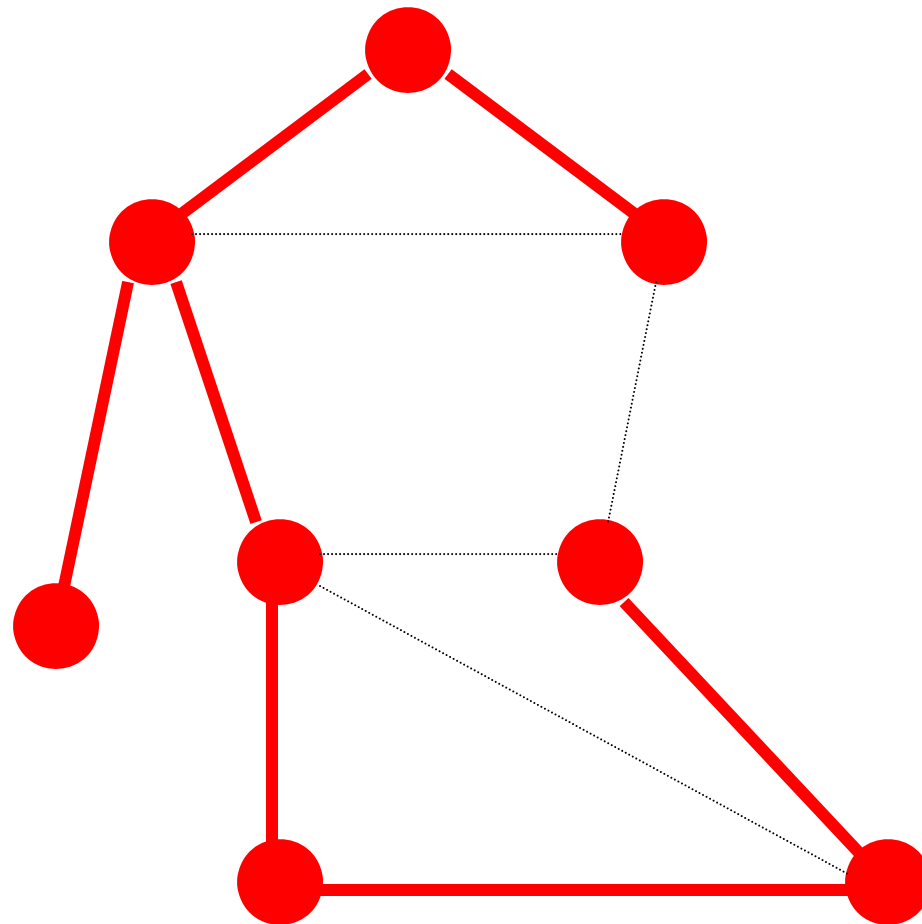




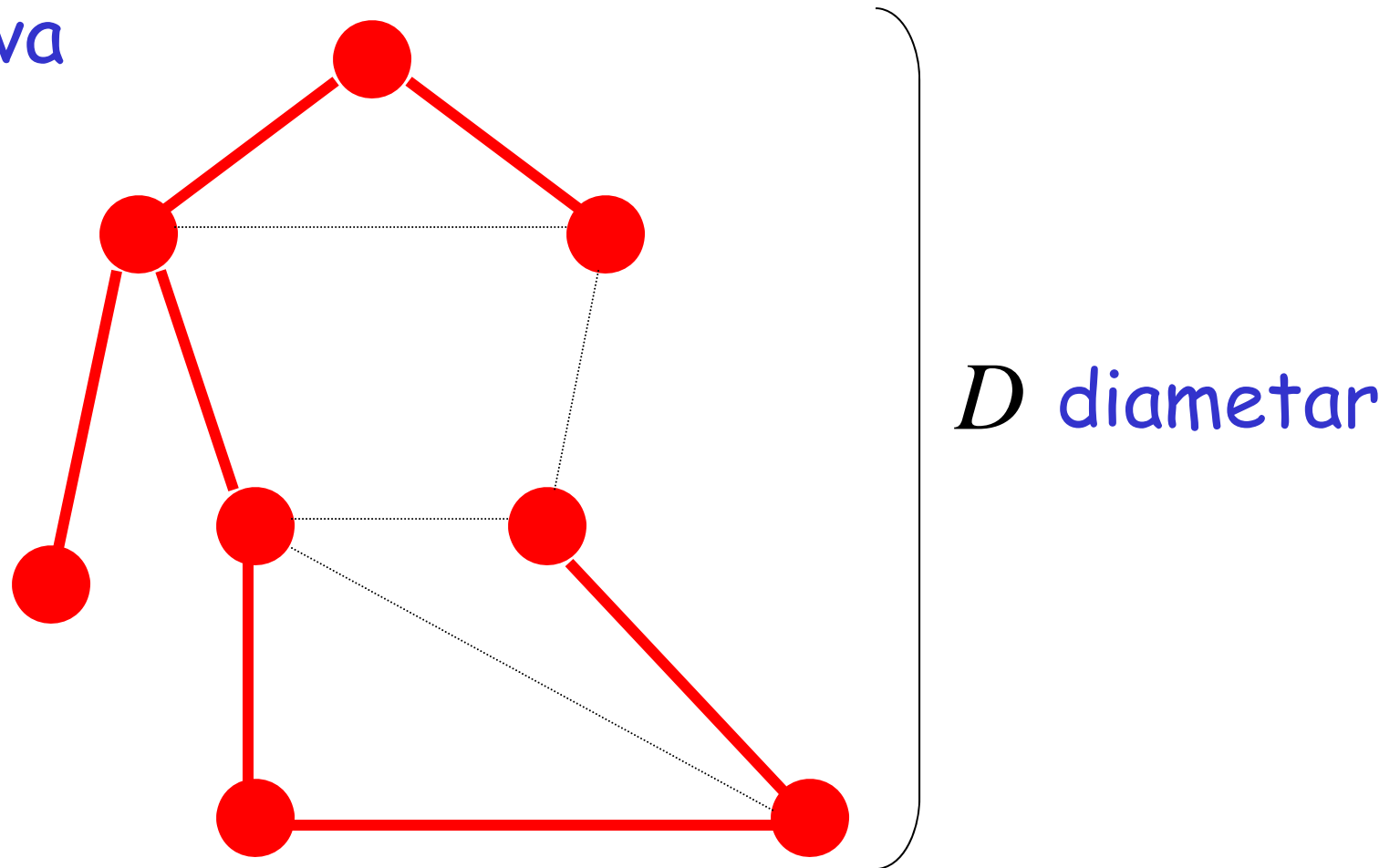








n čvorova
 m lukova

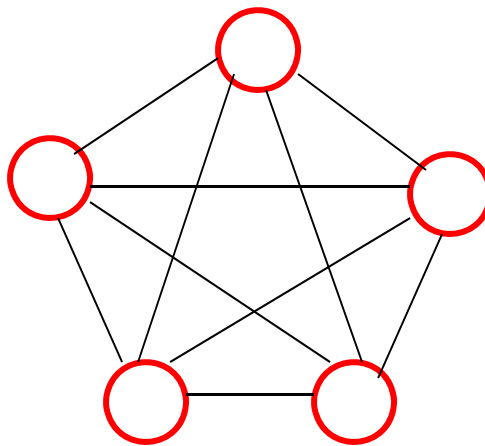


Vreme izvršenja: $O(D)$

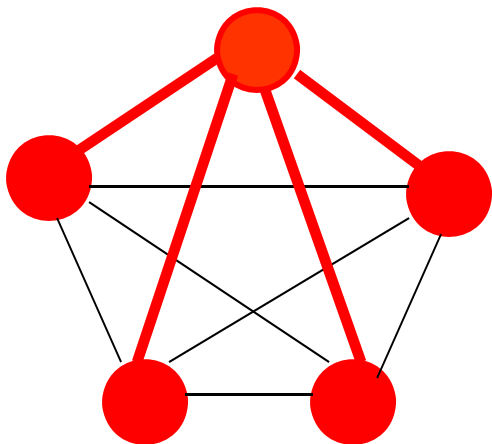
Broj poruka: $O(m)$

Asinhroni algoritam može dati dublja stabla od diametra

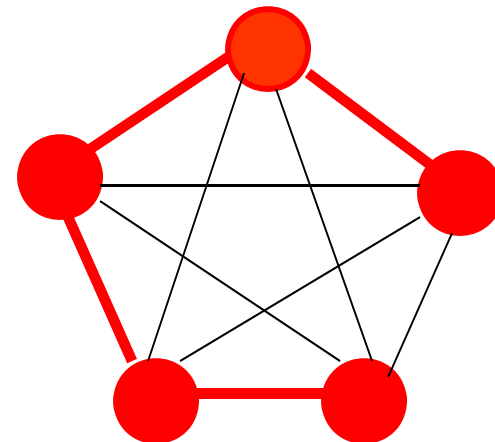
Primer:
Graf klike



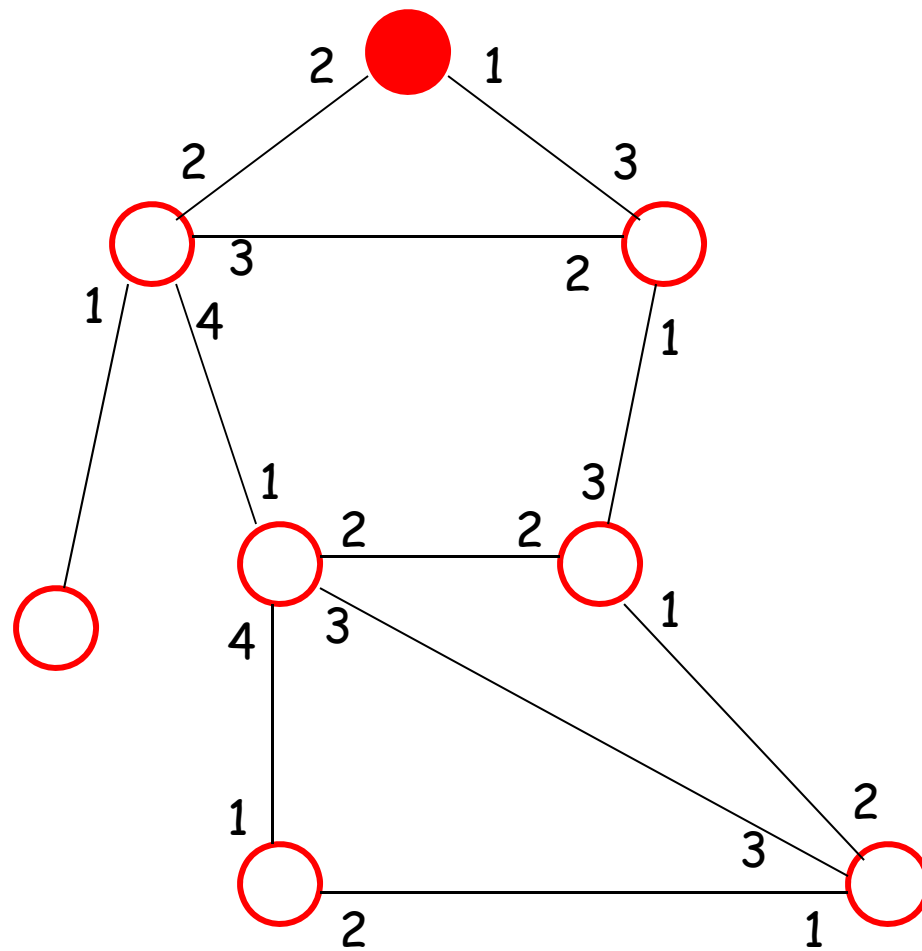
Sinhroni BFS

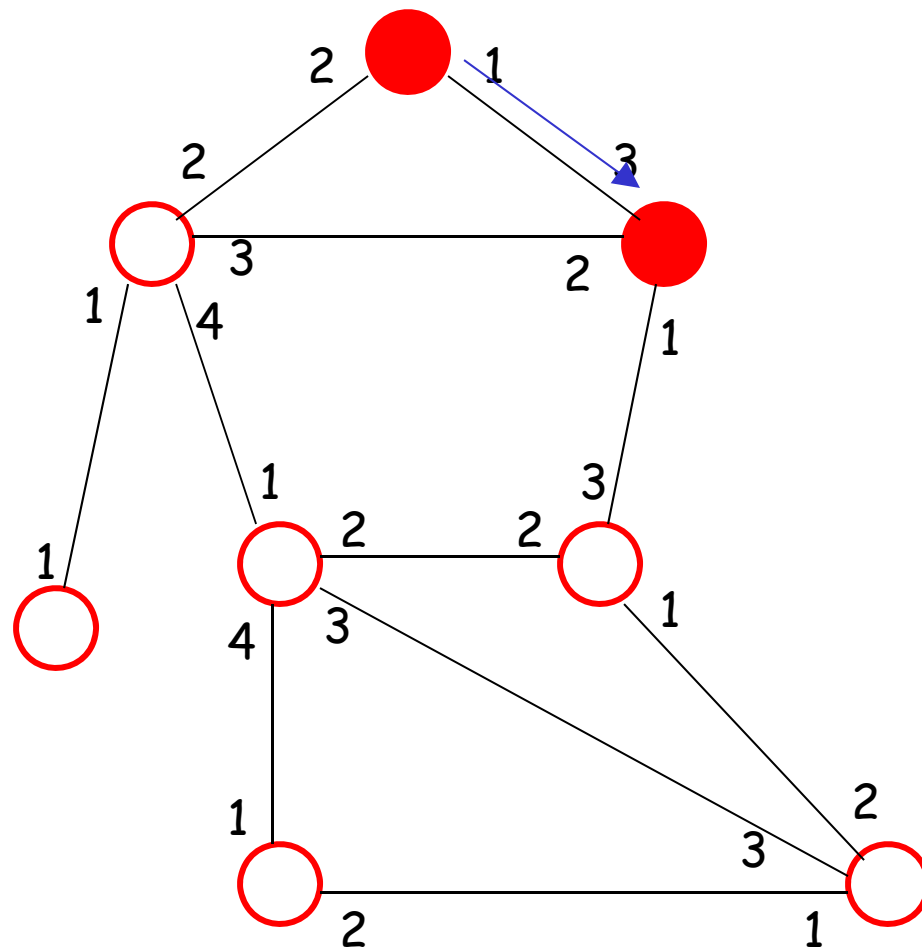


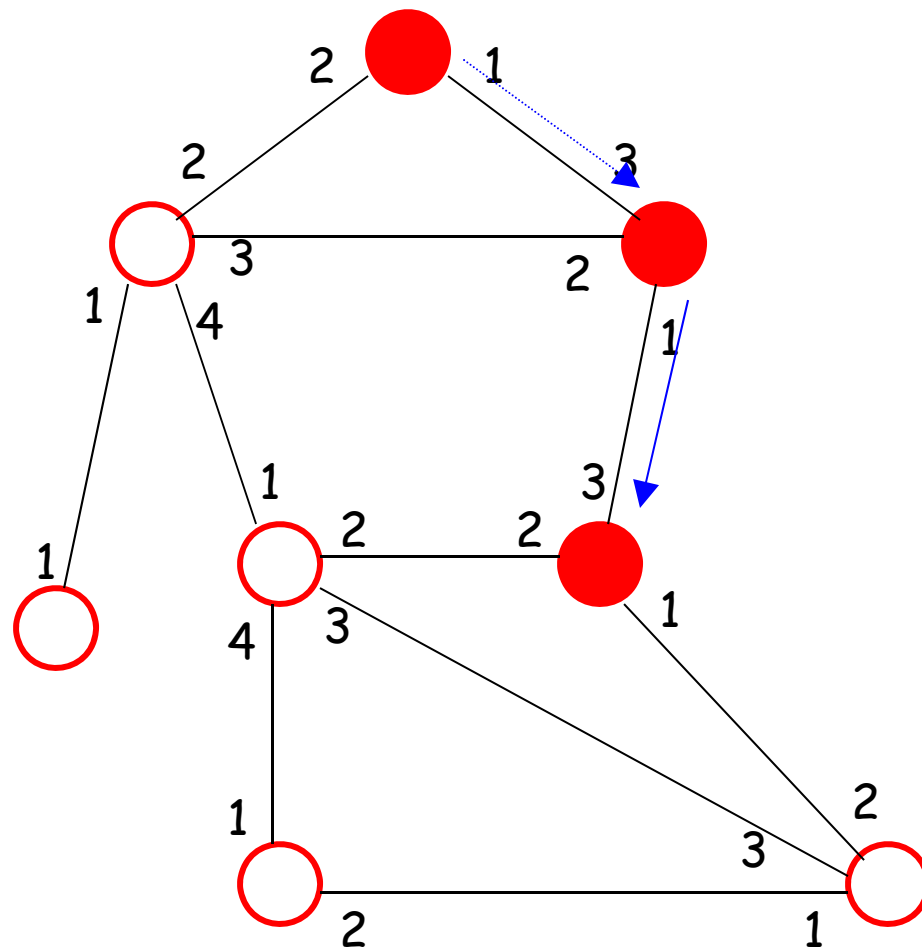
Asinhroni BFS

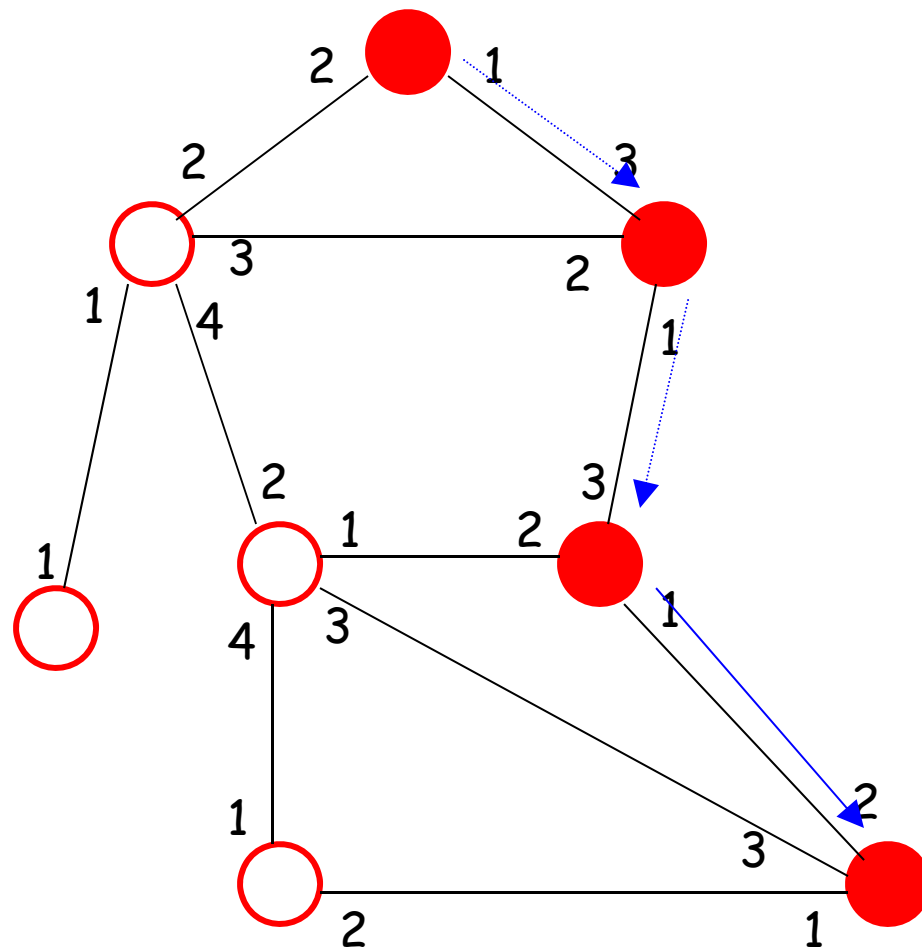


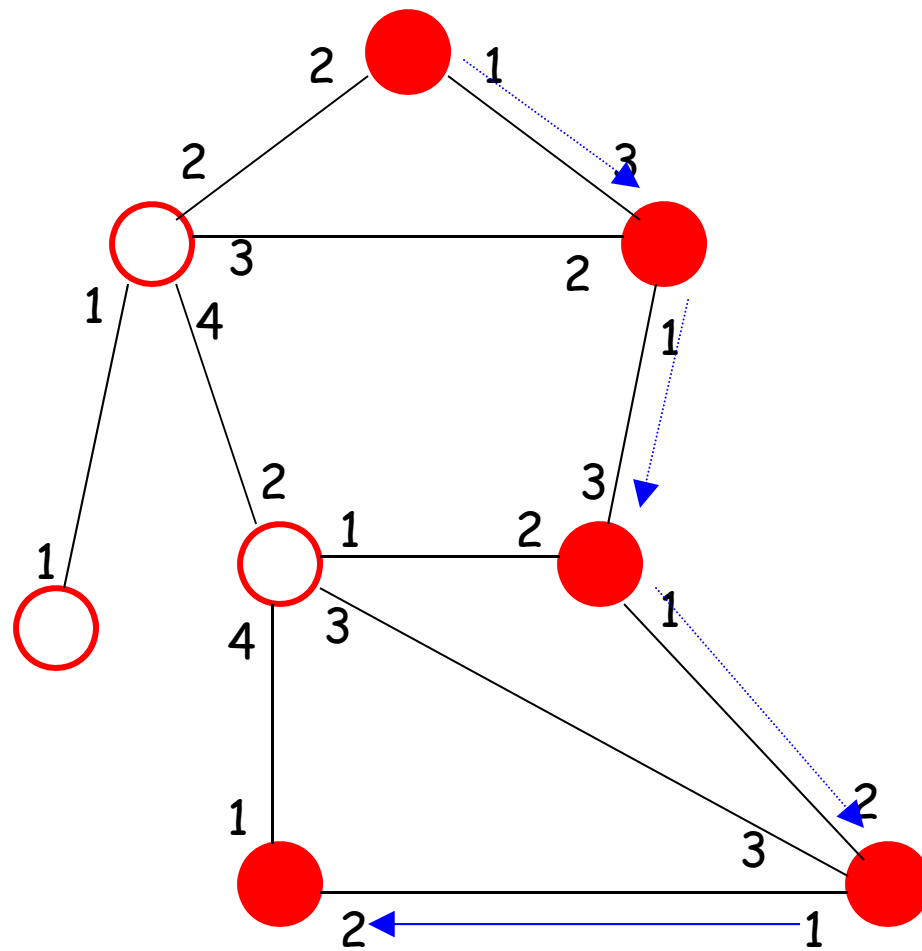
Razapinjanje stabla pretragom po dubini (DFS Spanning Tree)

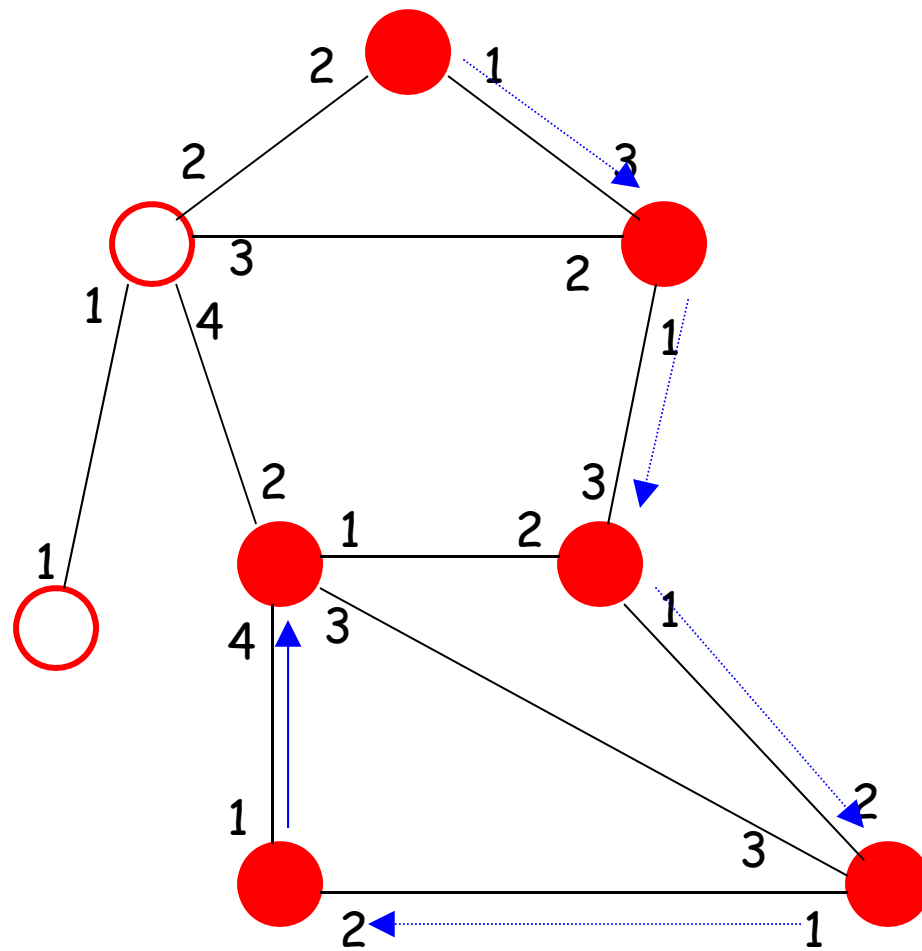


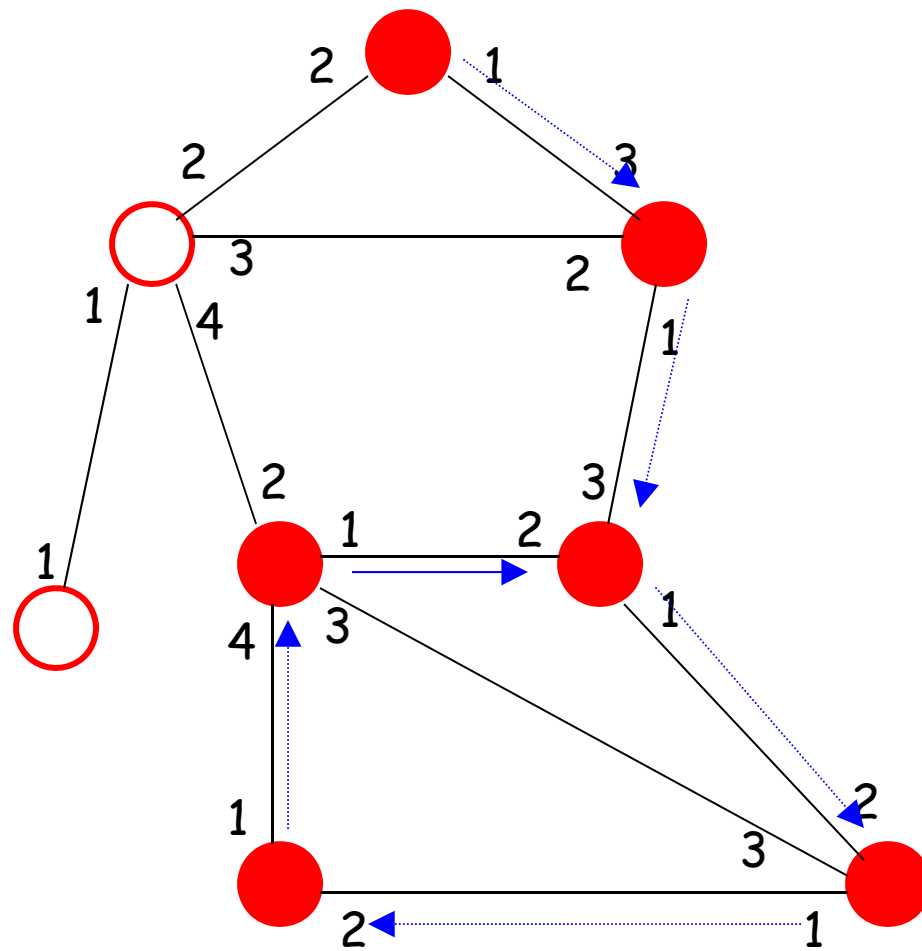


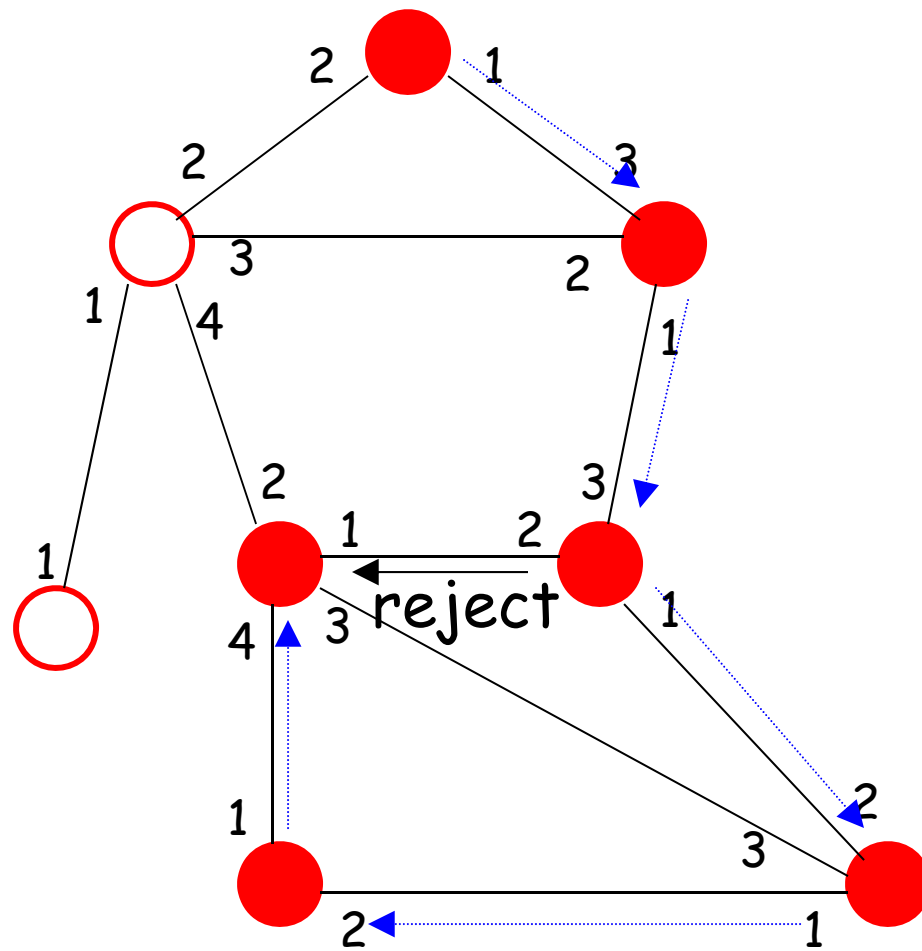


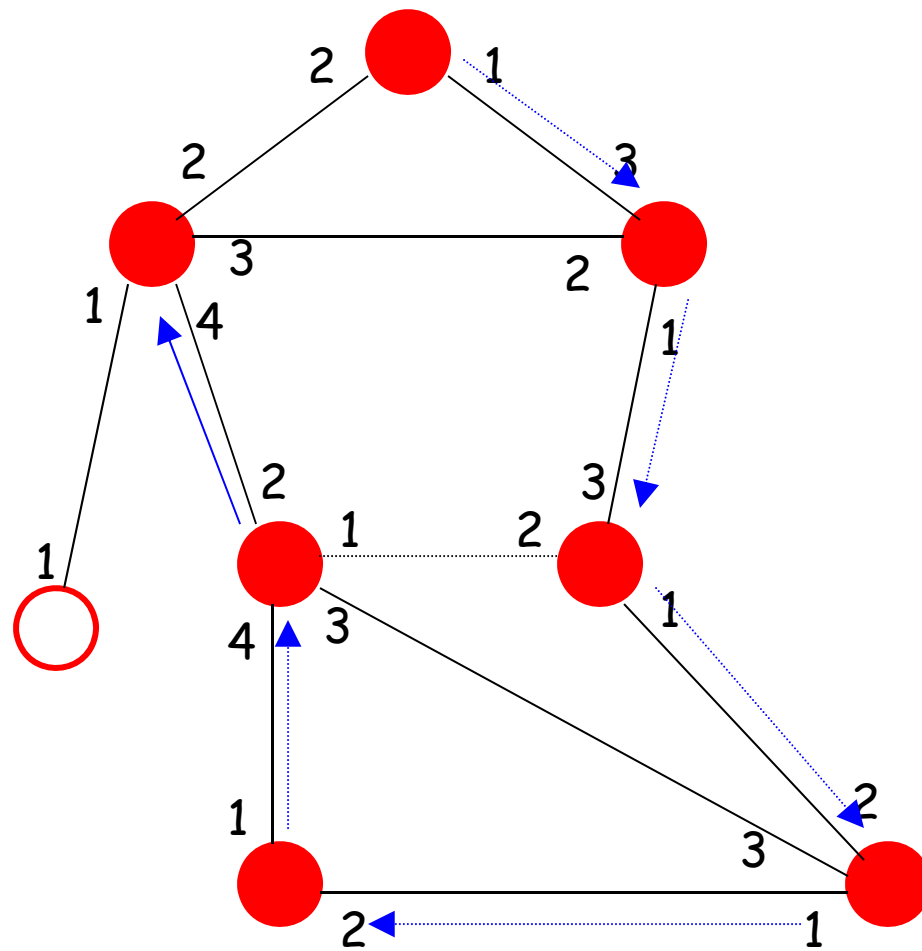


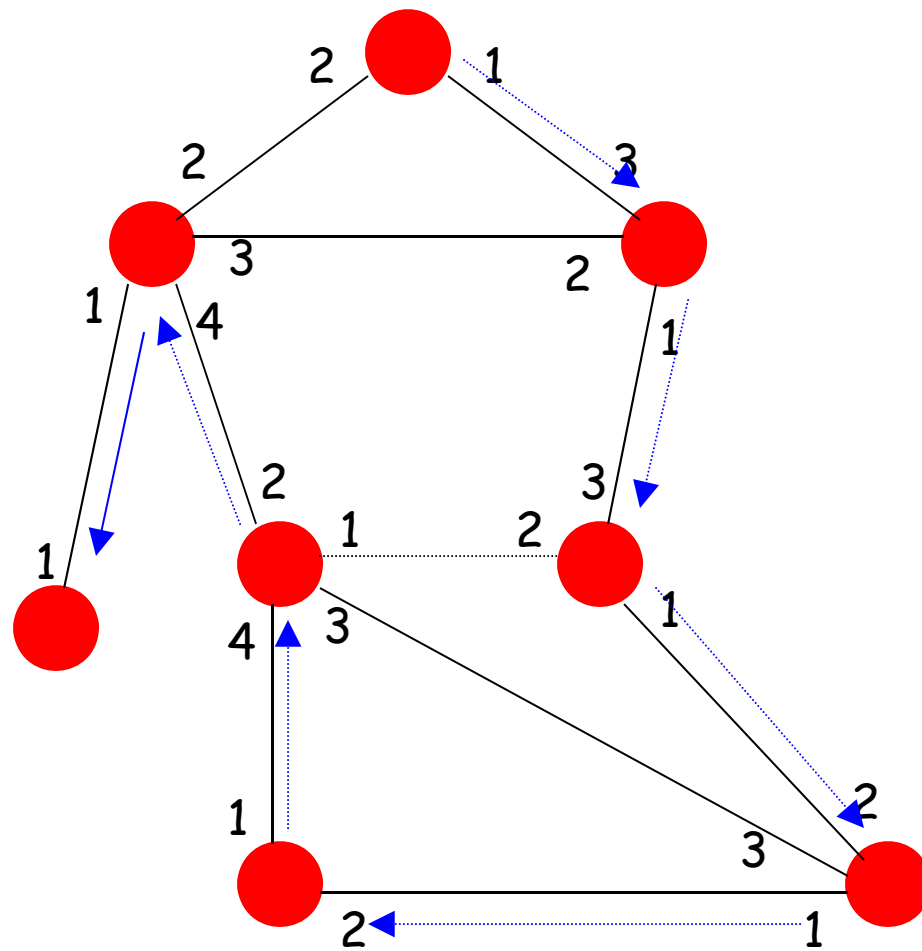


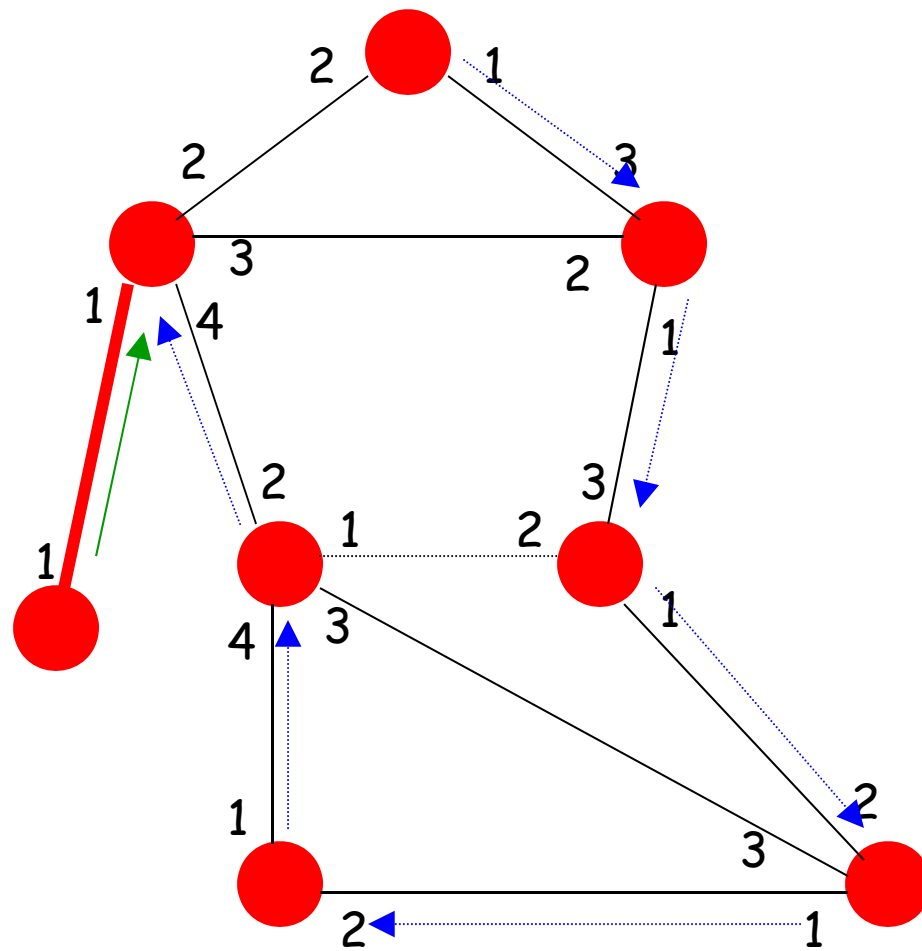


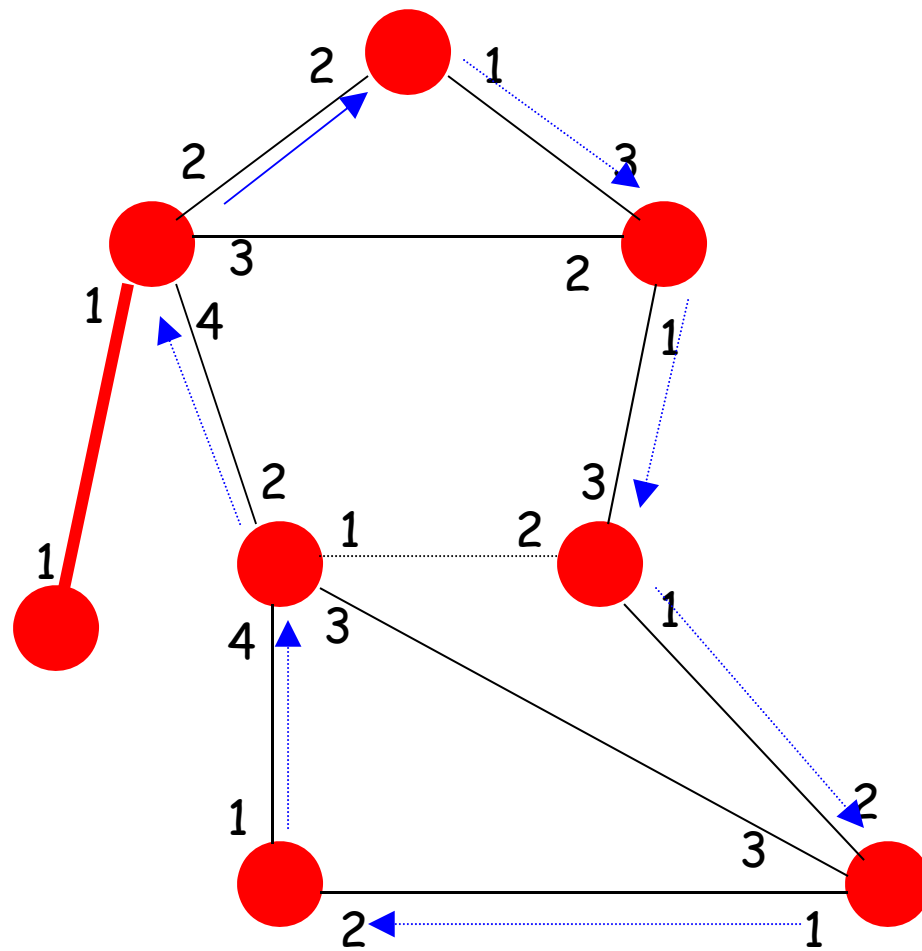


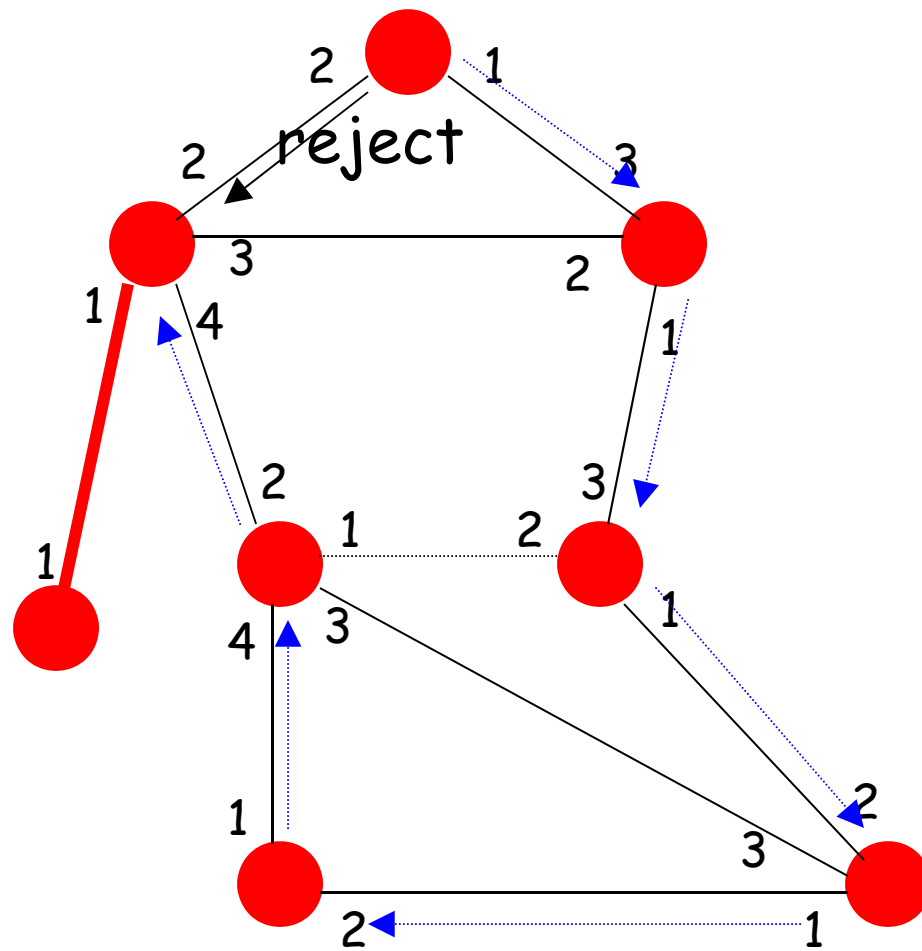


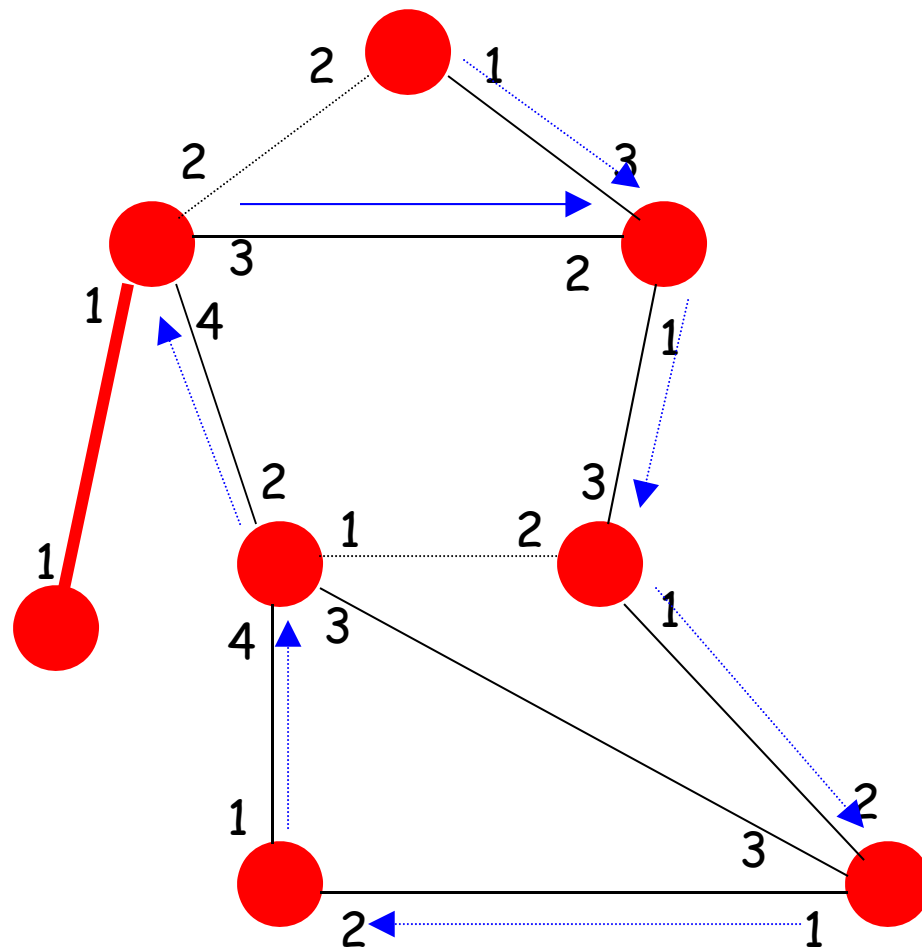


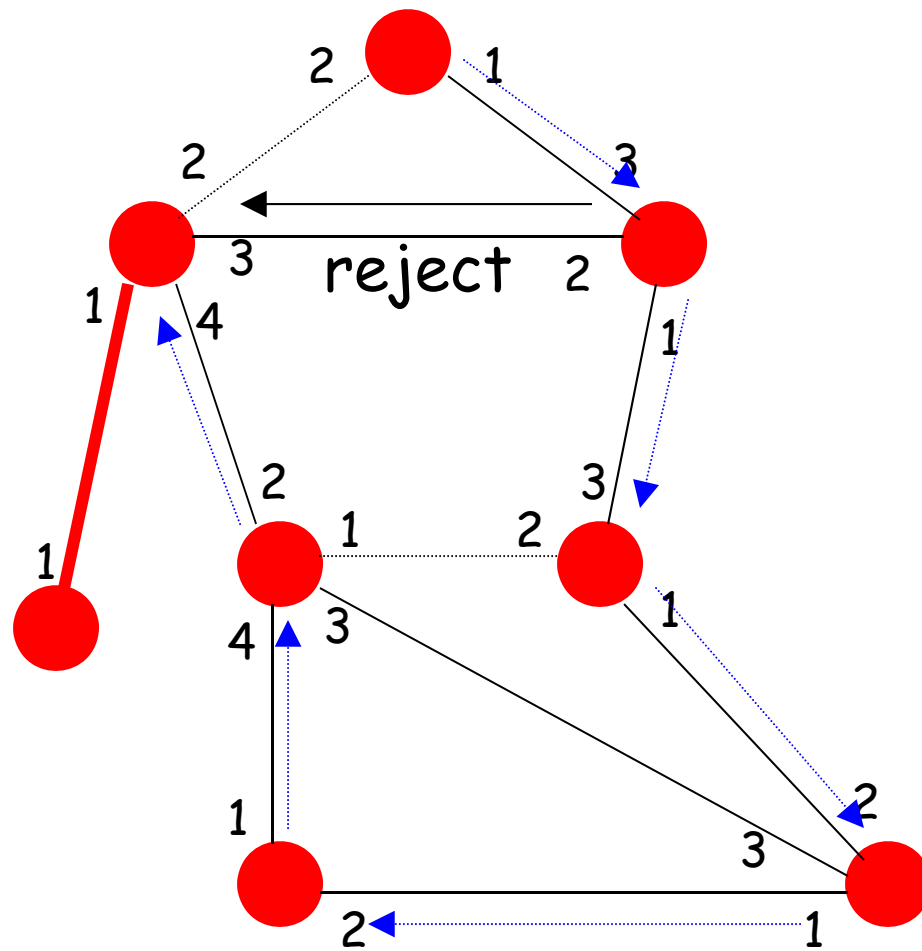


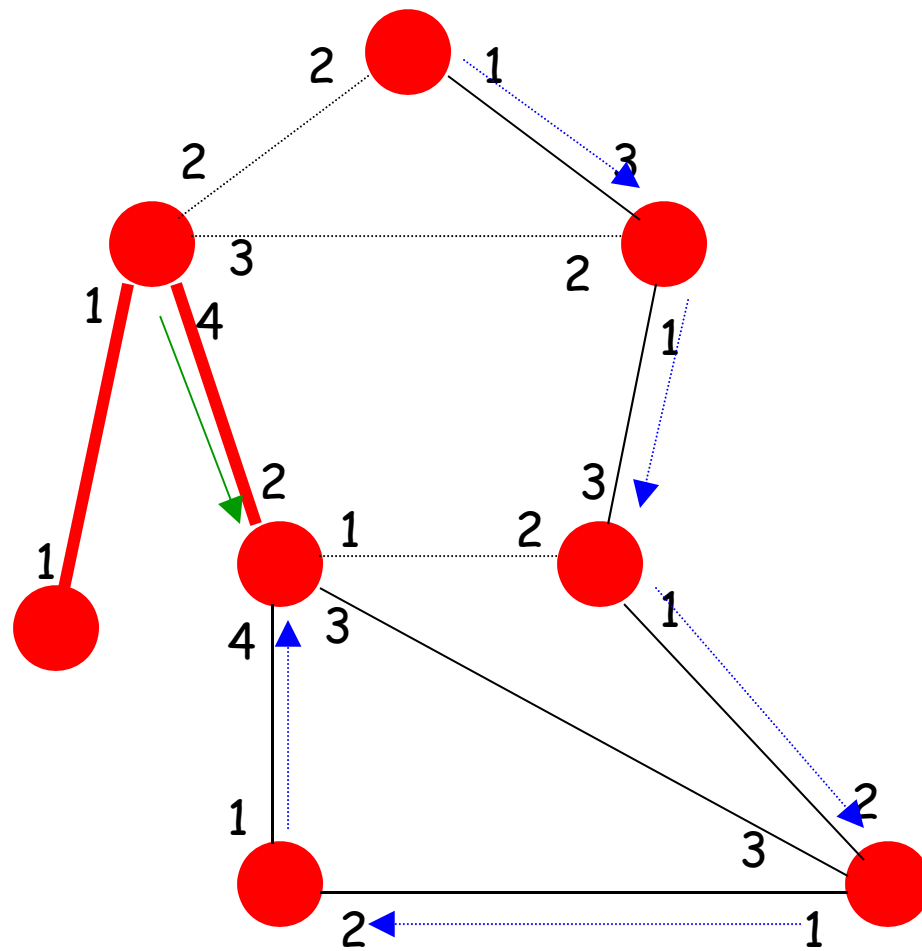


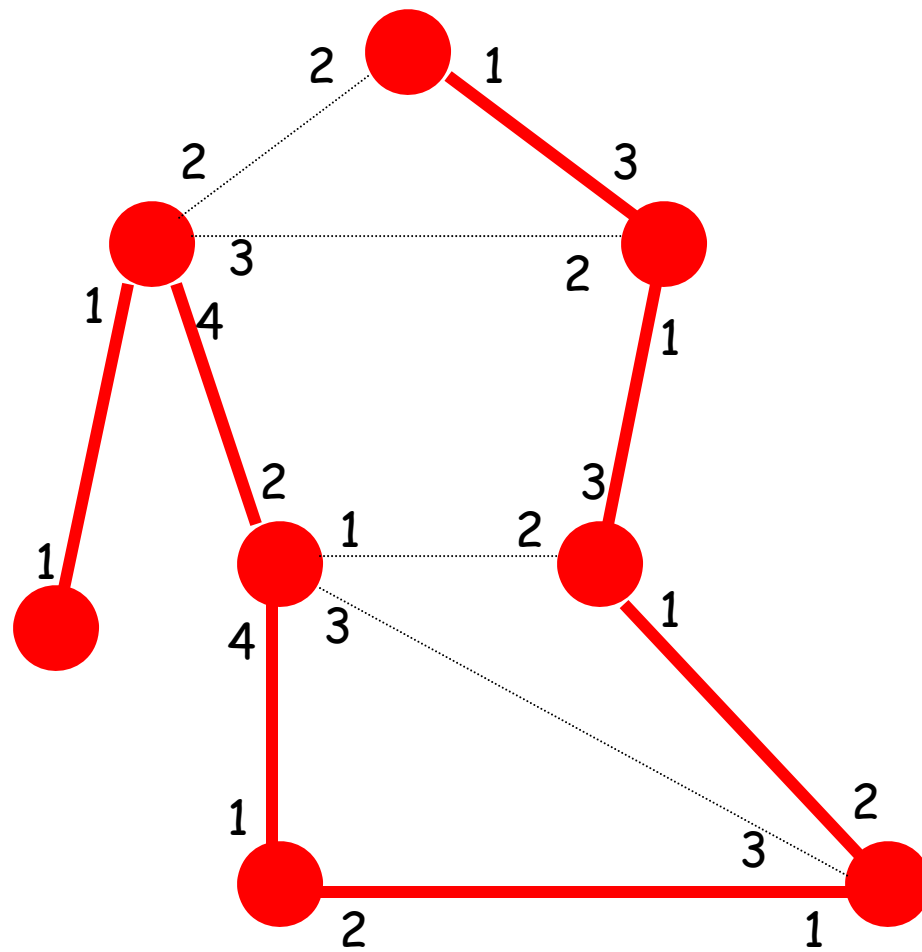




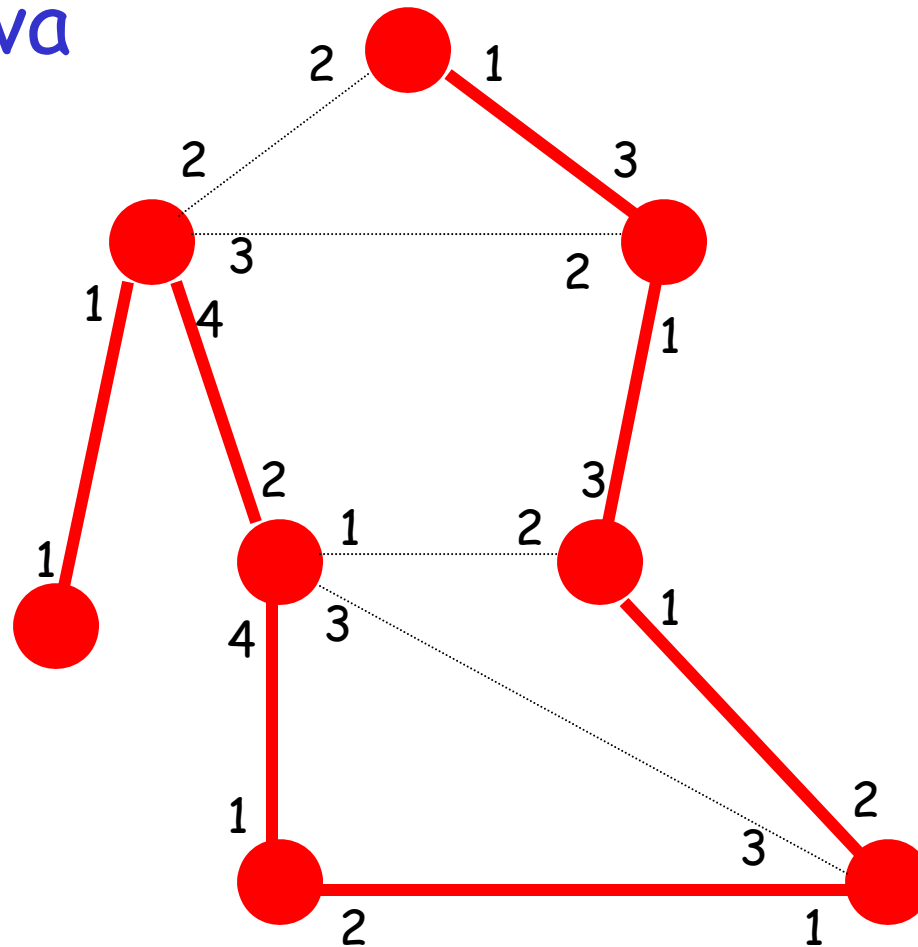








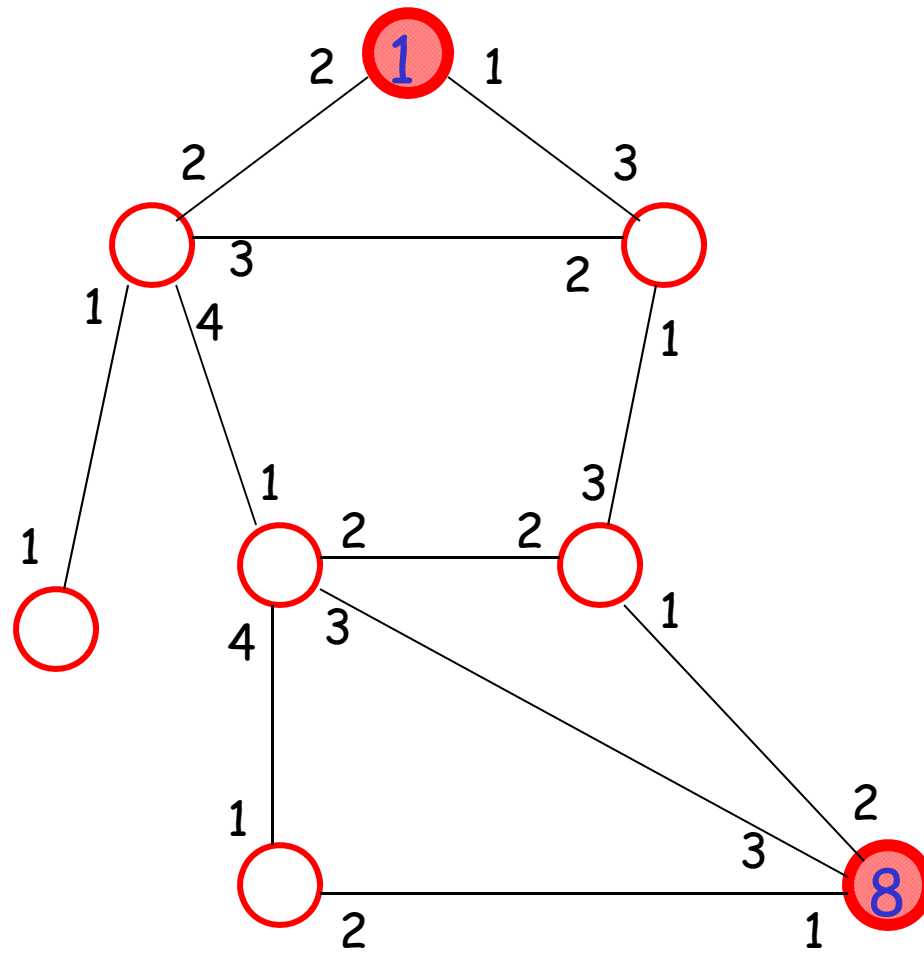
n čvorova
 m lukova

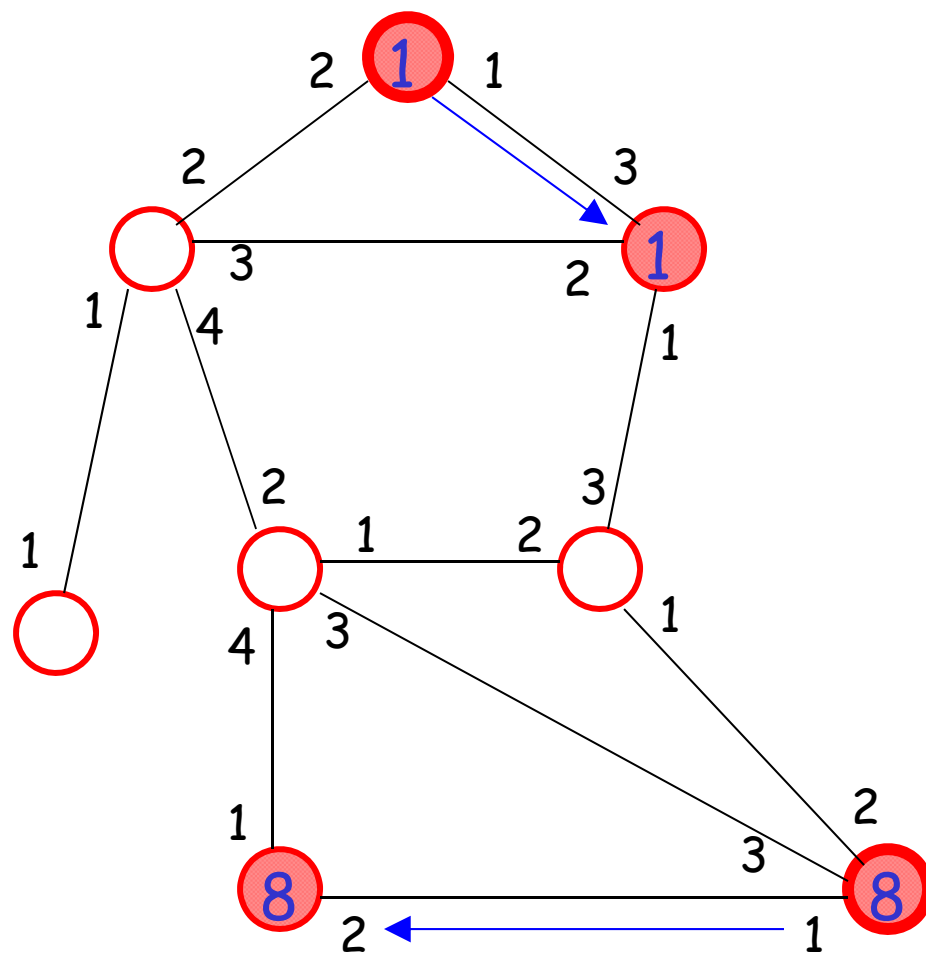


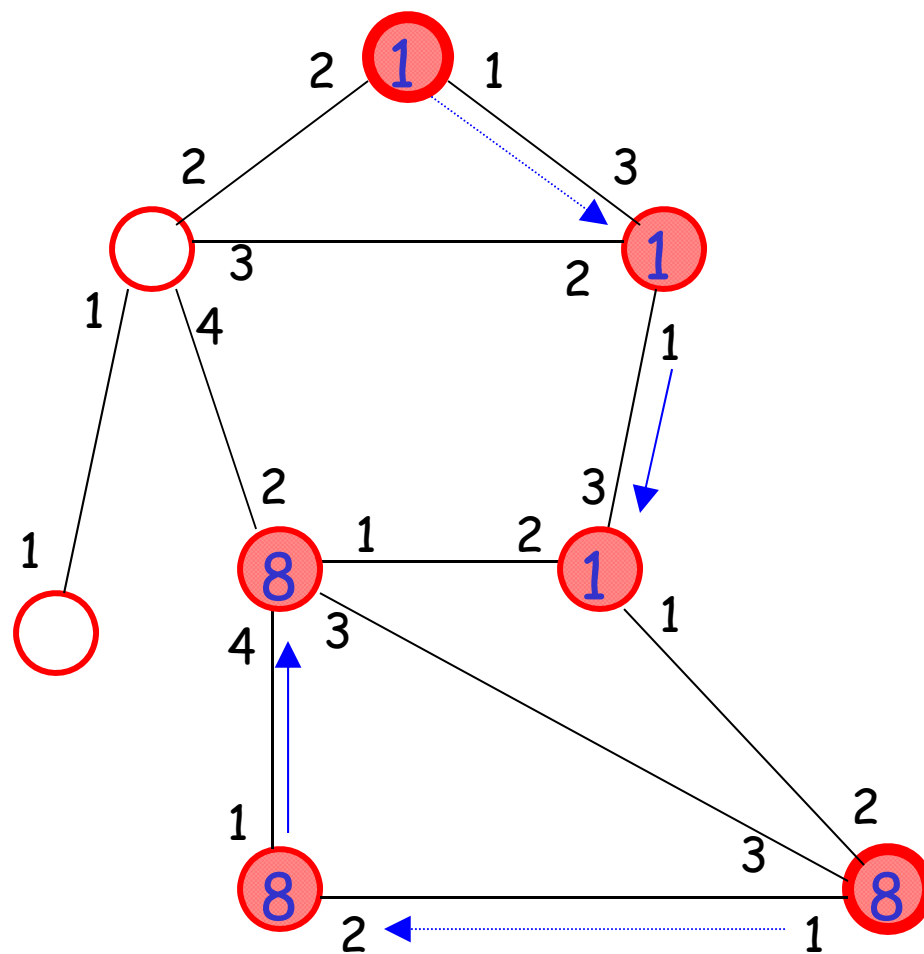
Vreme izvršenja: $O(m)$

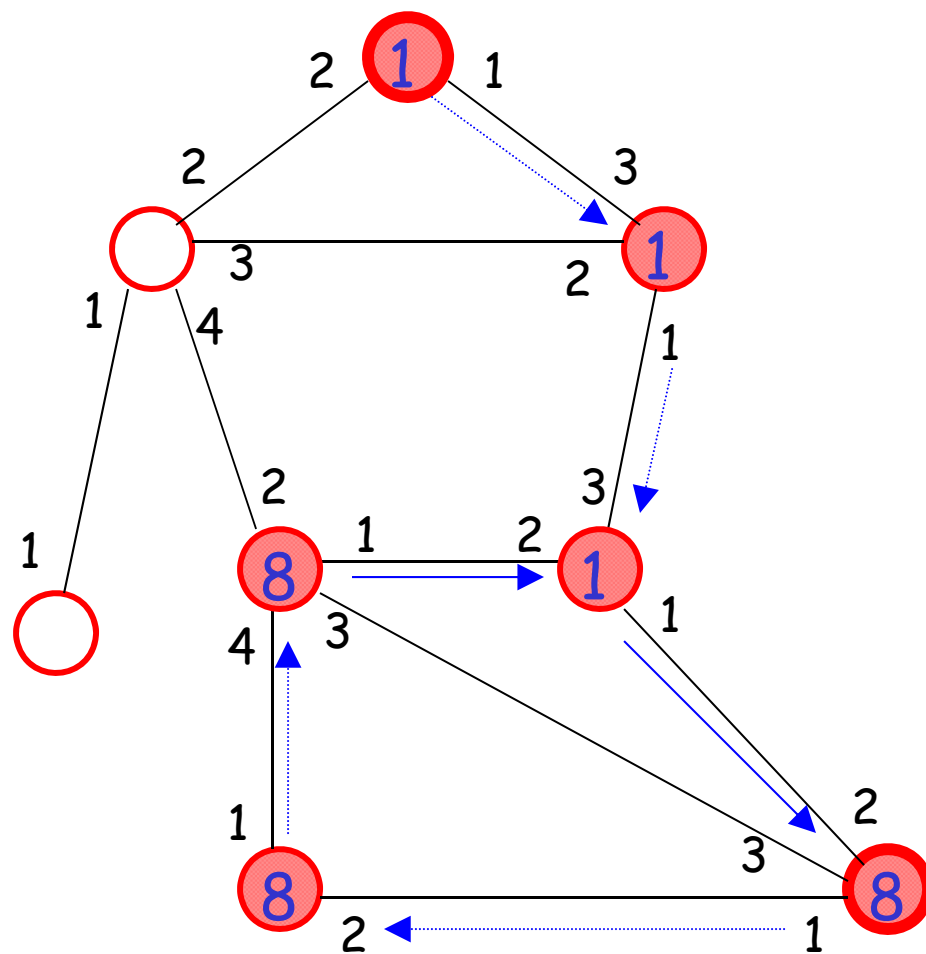
Broj poruka: $O(m)$

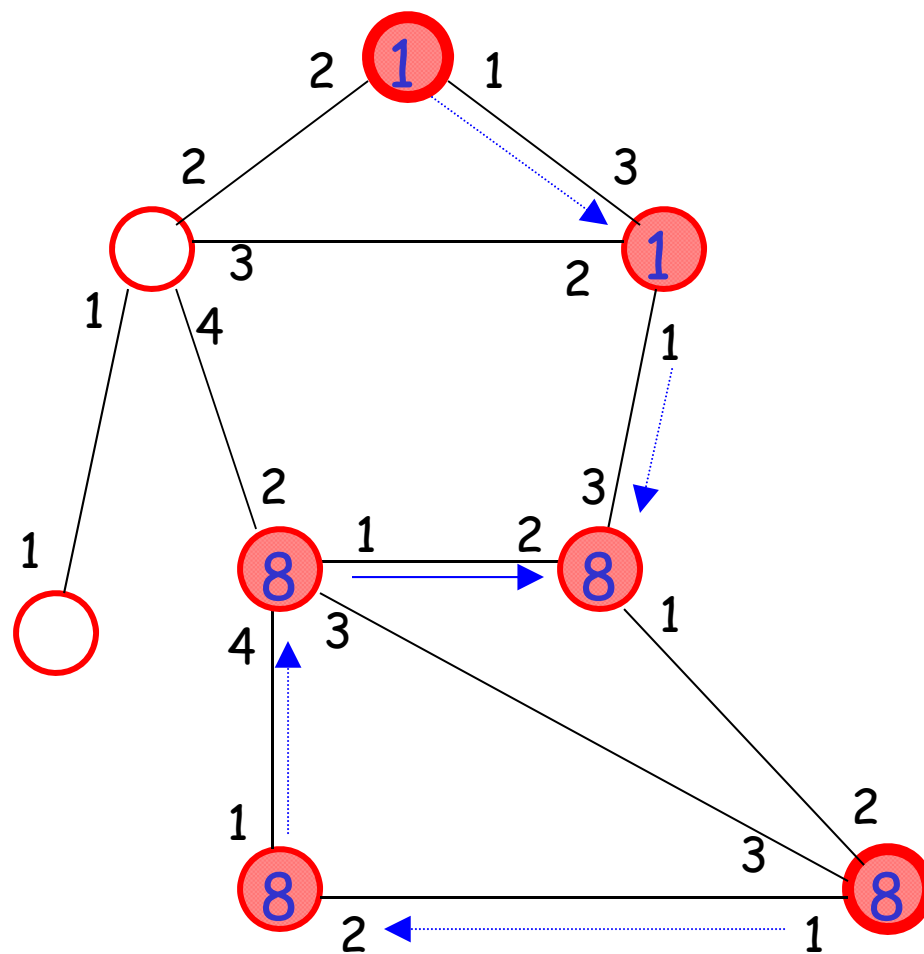
Pravljenje DFS razapinjućeg
stabla bez zadatog korena

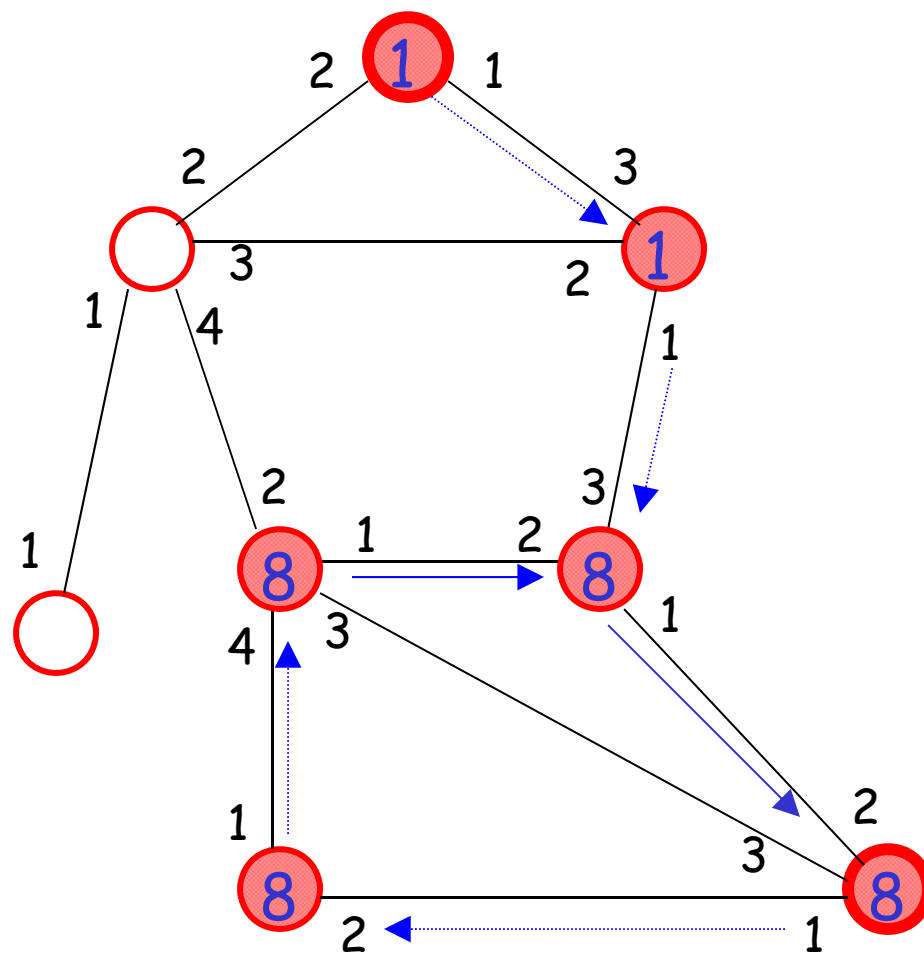


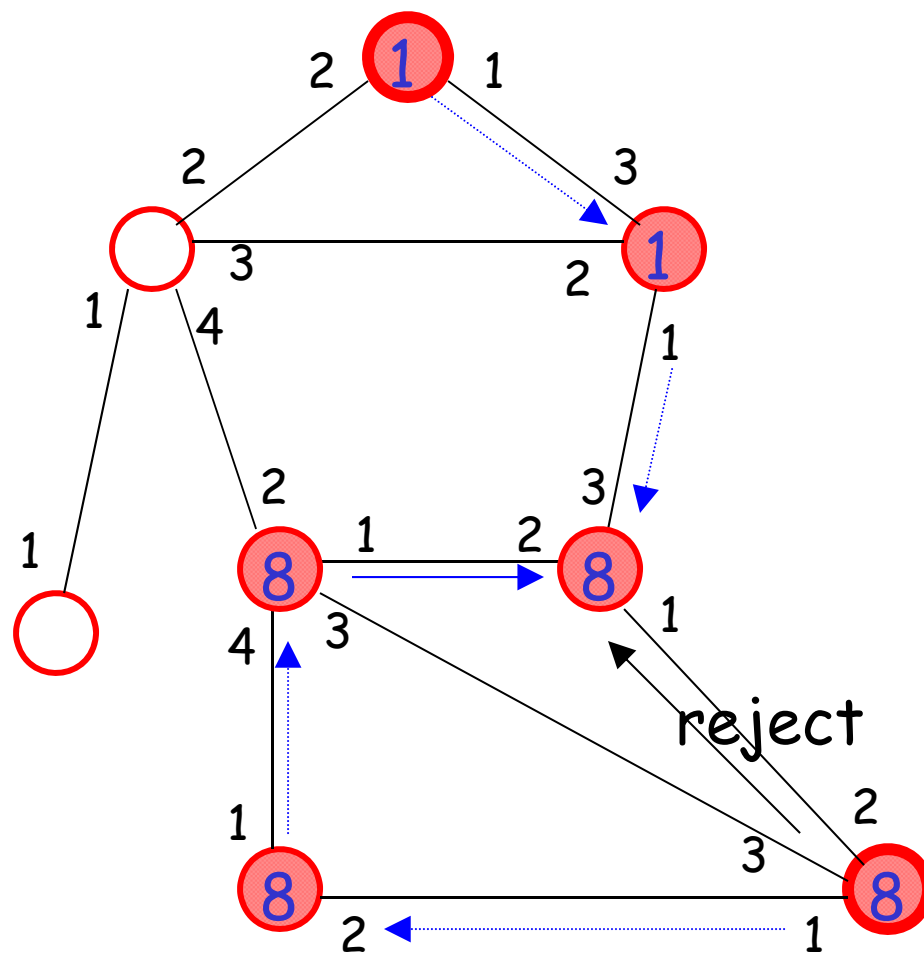


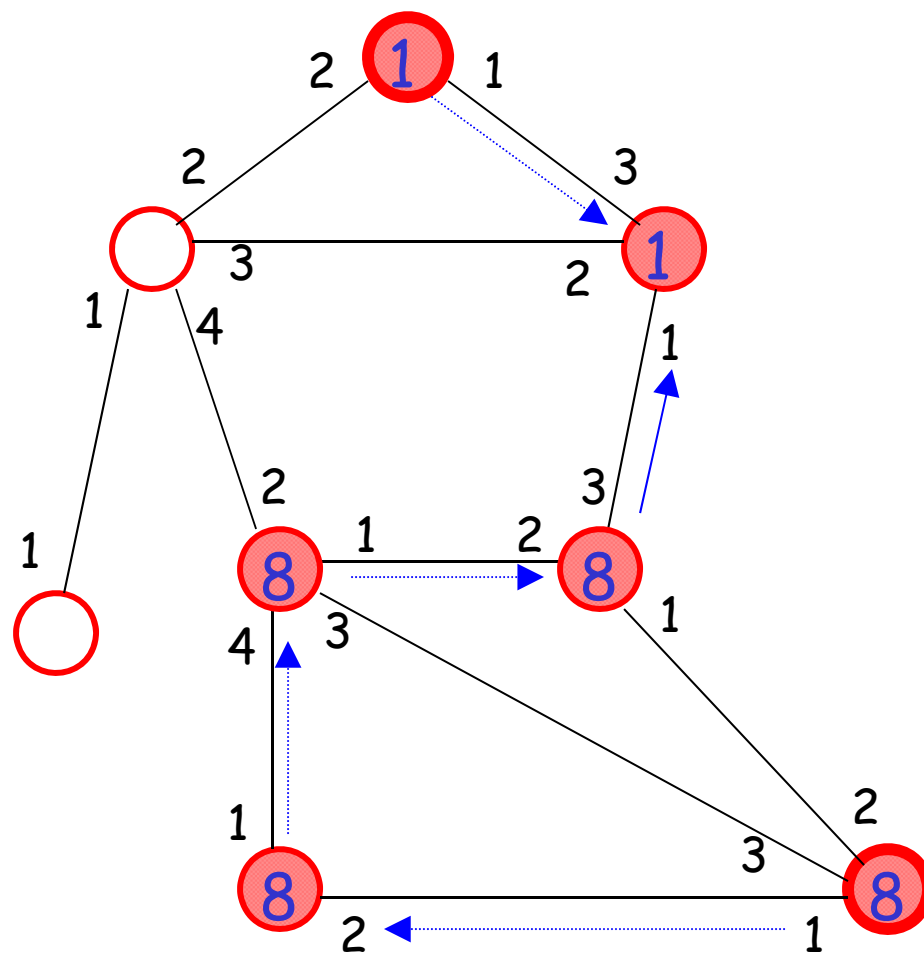


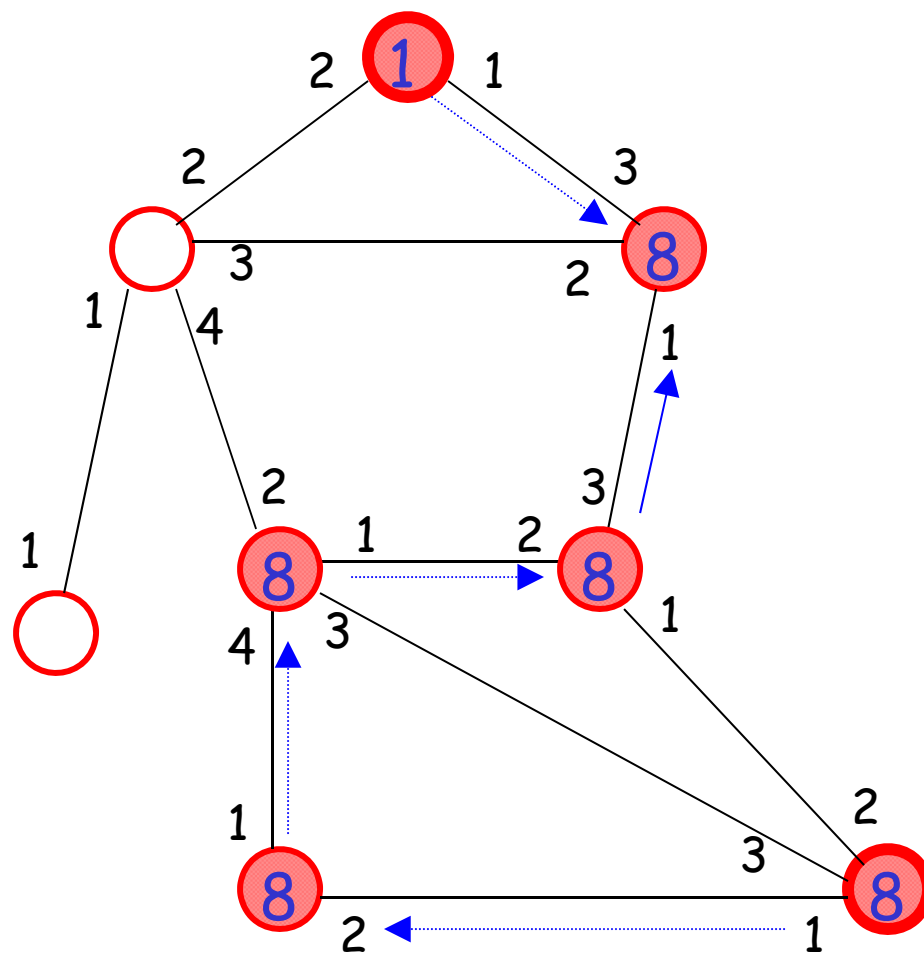


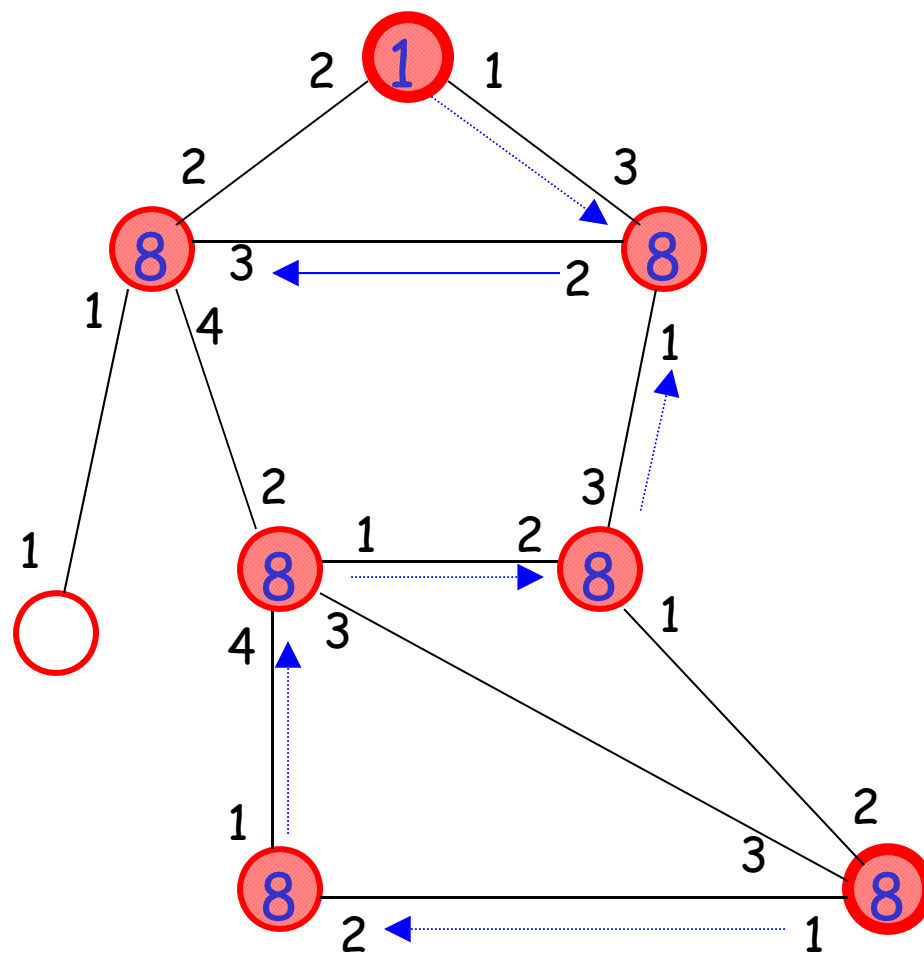


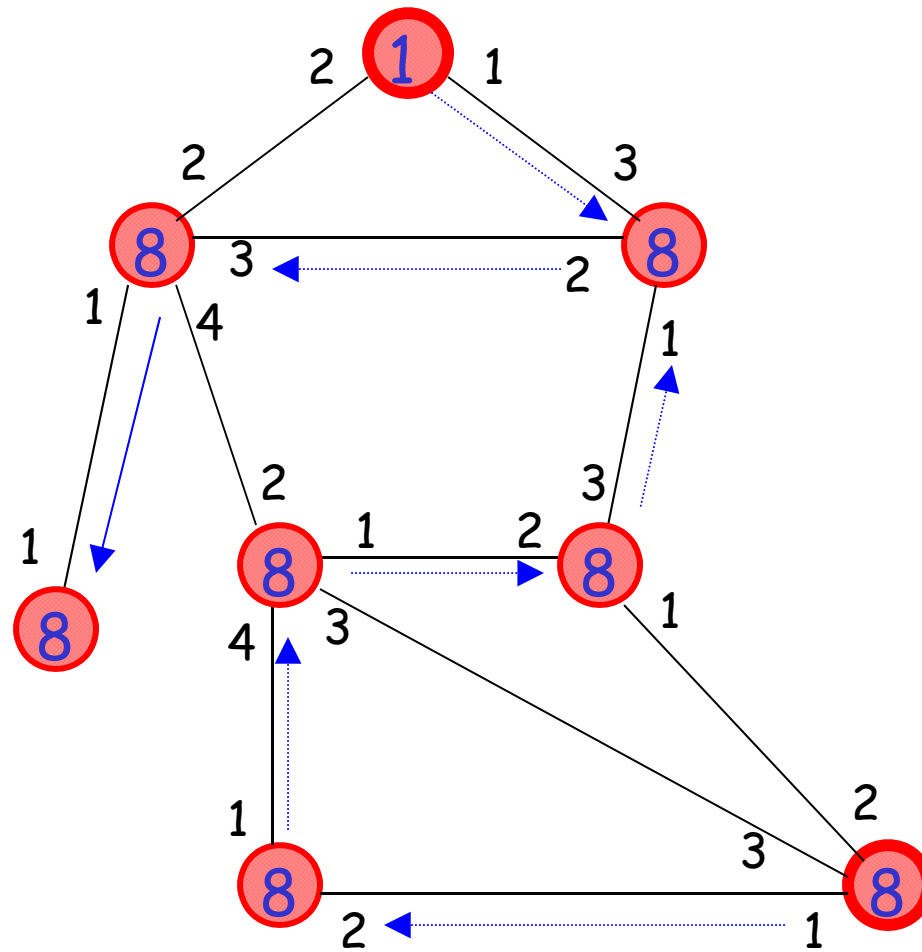






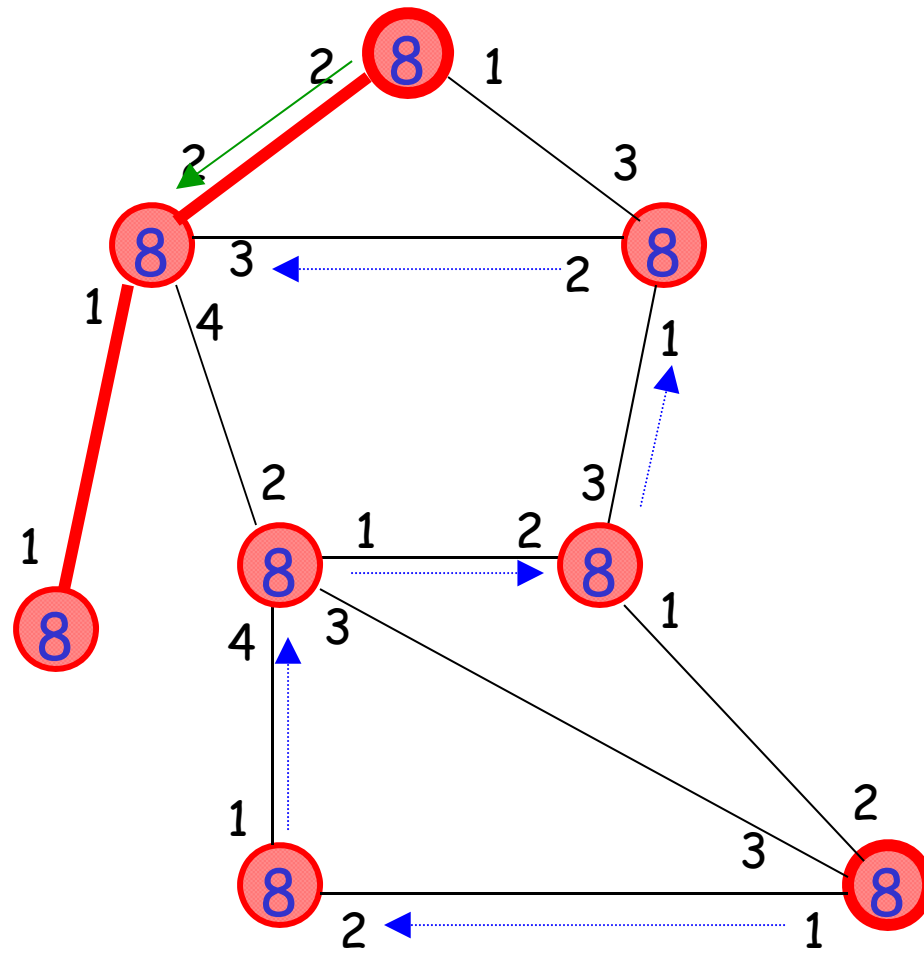


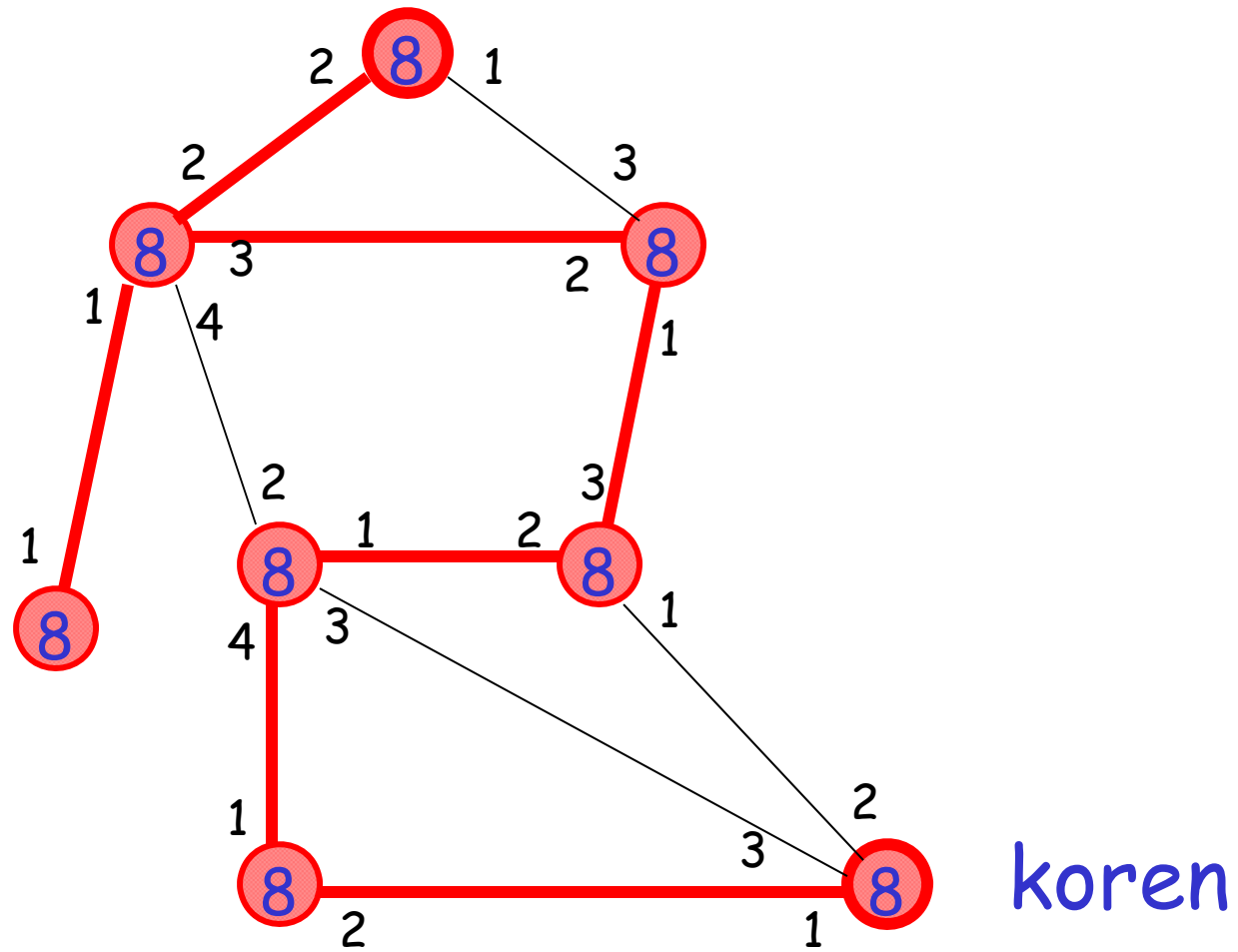






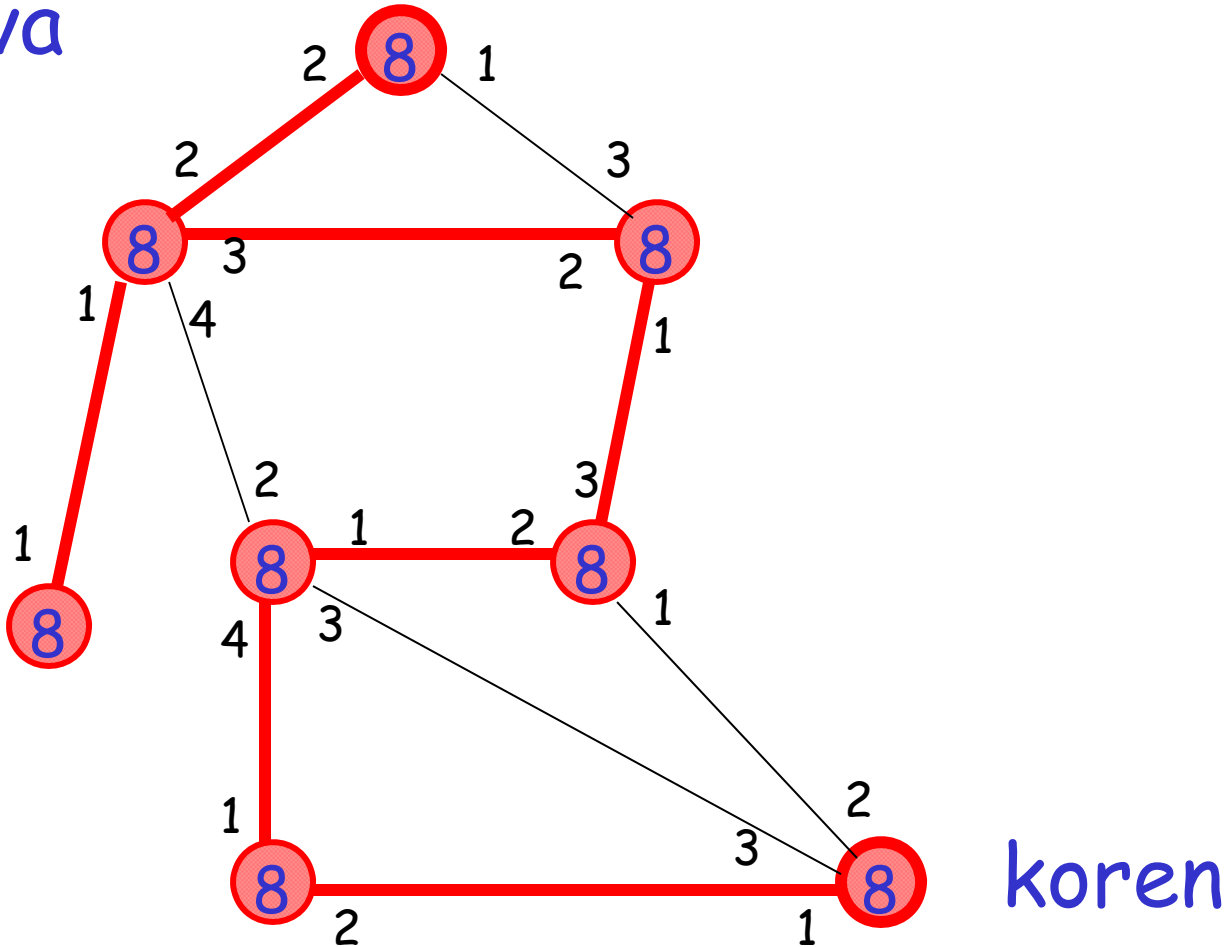






n čvorova

m lukova



Vreme izvršenja: $O(m)$

Broj poruka: $O(n \cdot m)$