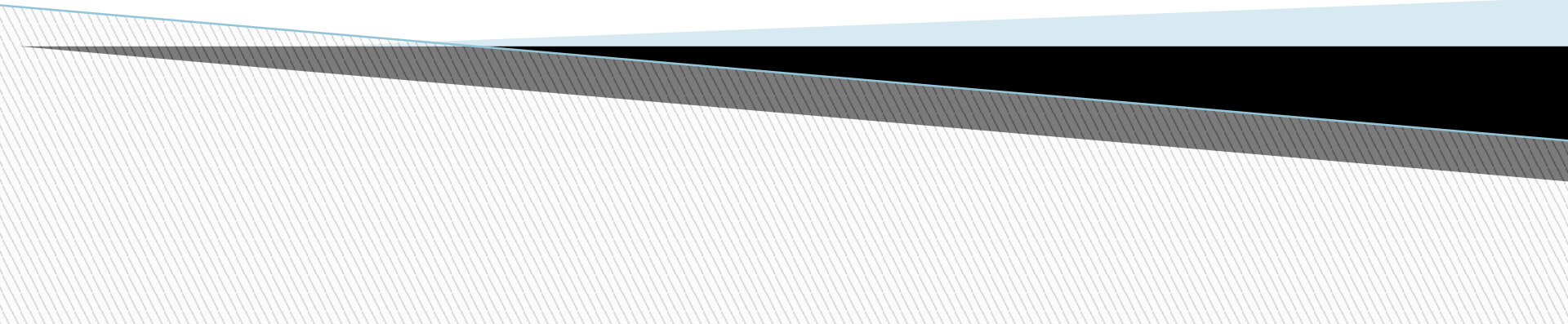


# **Fluxuri maxime în rețele de transport**

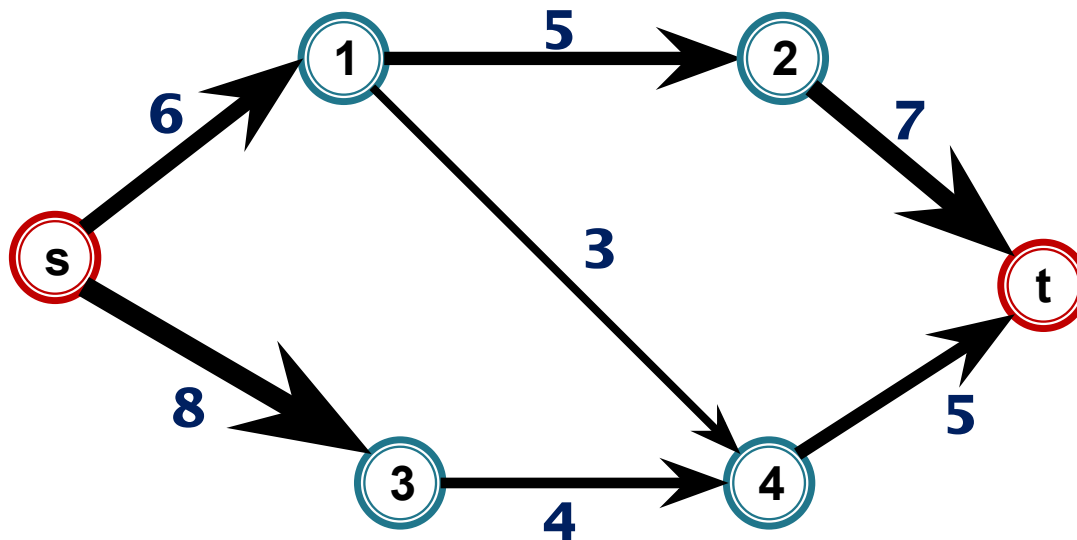




▣ **Avem o rețea în care**

- **arcele au limitări de capacitate**
- **nodurile = joncțiune**

**Care este cantitatea maximă care poate  
fi transmisă prin rețea de la surse la destinații?  
(în unitatea de timp)**



# Fluxuri în rețele de transport

## ▣ **Rețea de comunicare**

- **Transferul de informații - limitat de lățimea de bandă**

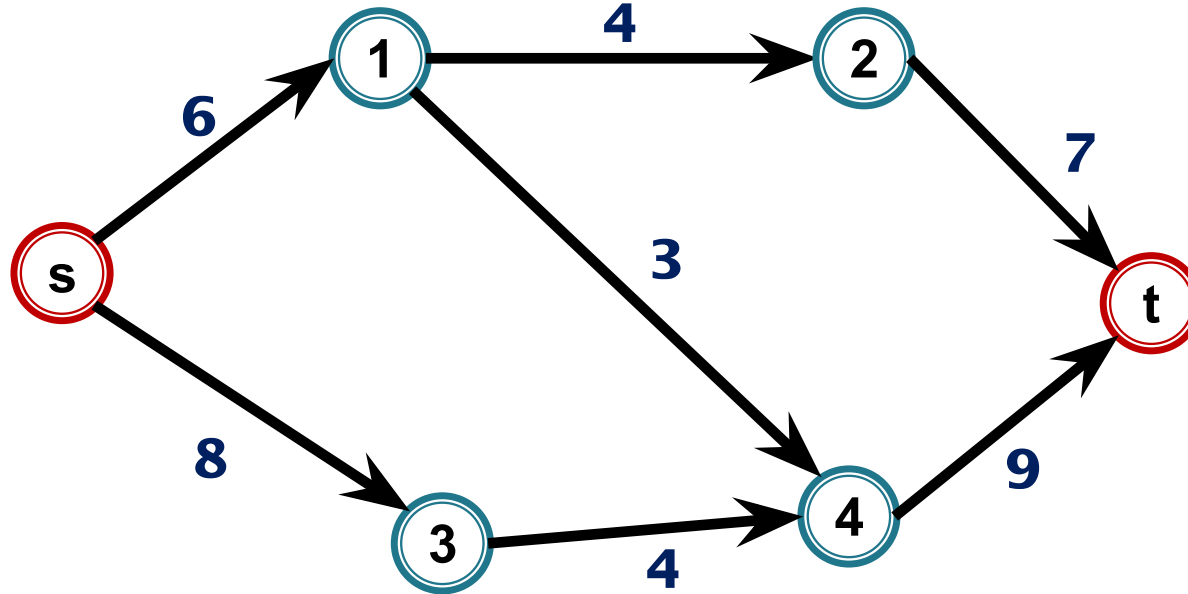
## ▣ **Rețele de transport / evacuare în caz de urgențe**

- **Limitare - număr de mașini/persoane în unitatea de timp**

## ▣ **Rețele de conducte**

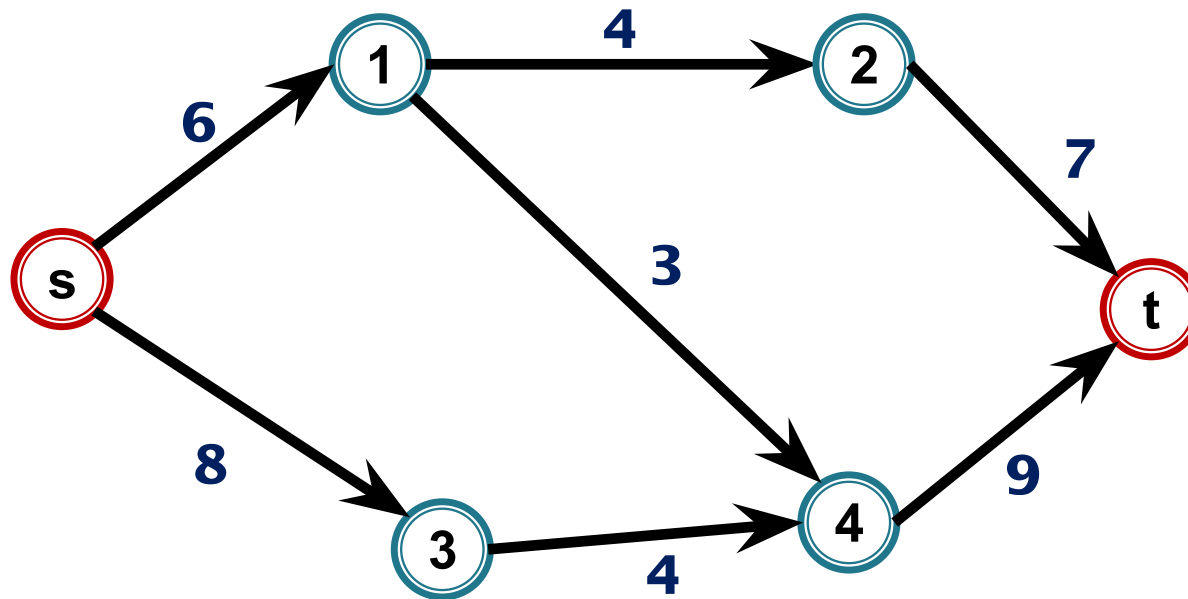
▣ ...

# Fluxuri în rețele de transport



Încercăm să trimitem marfă (flux) **de la vârful sursă s la destinația t**

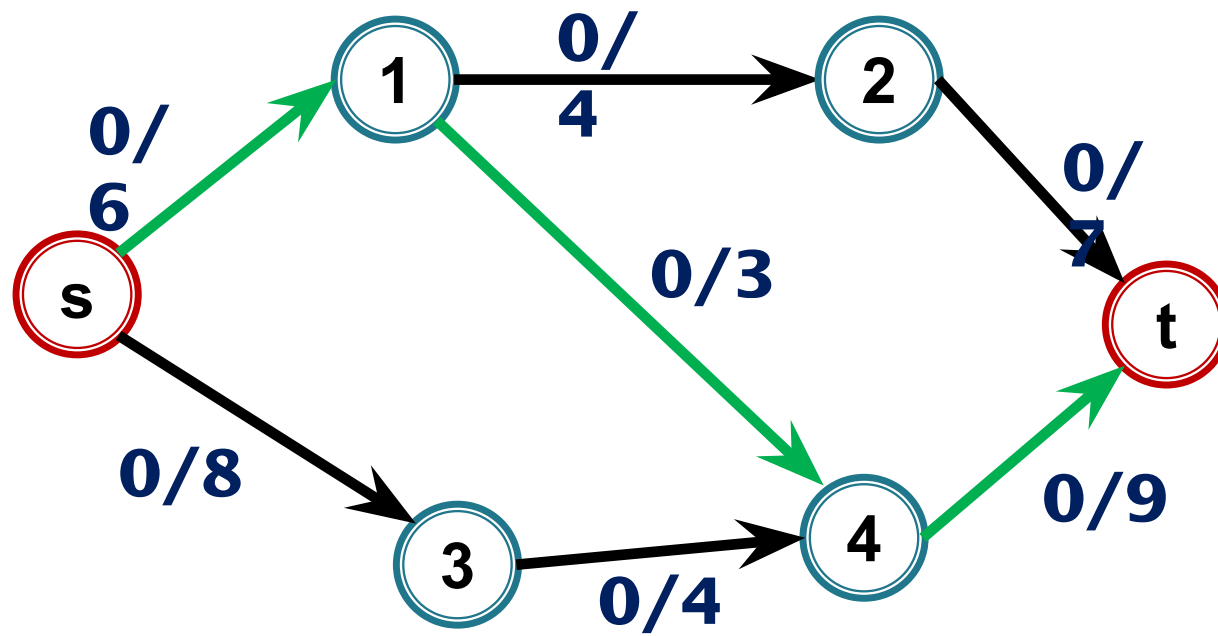
# Fluxuri în rețele de transport

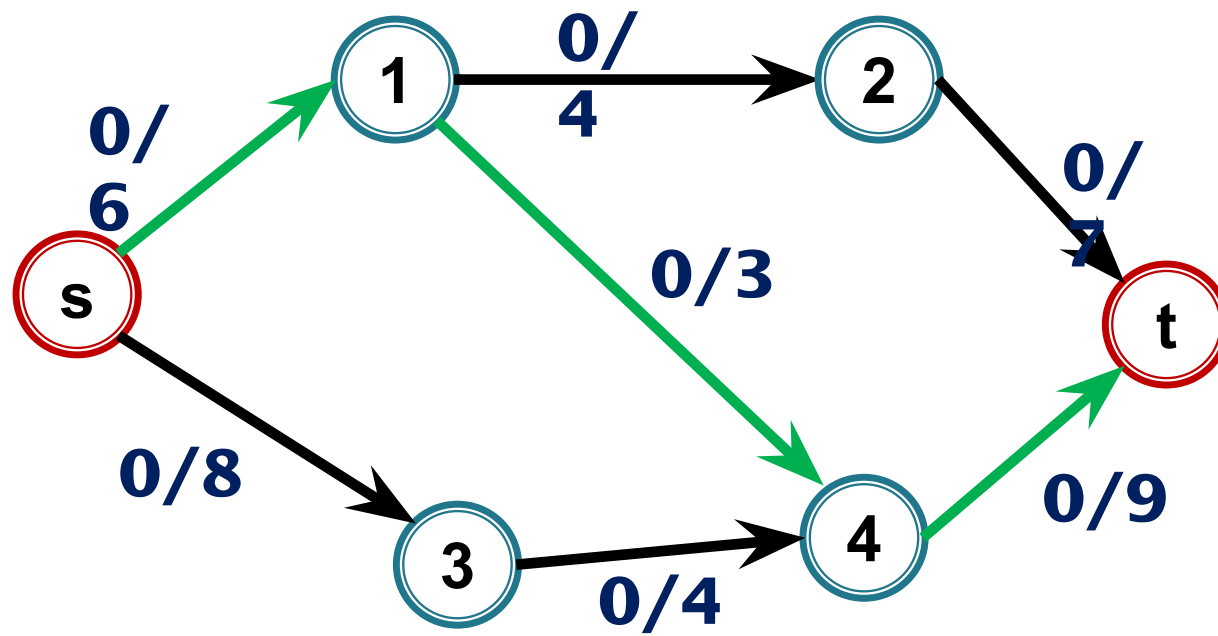


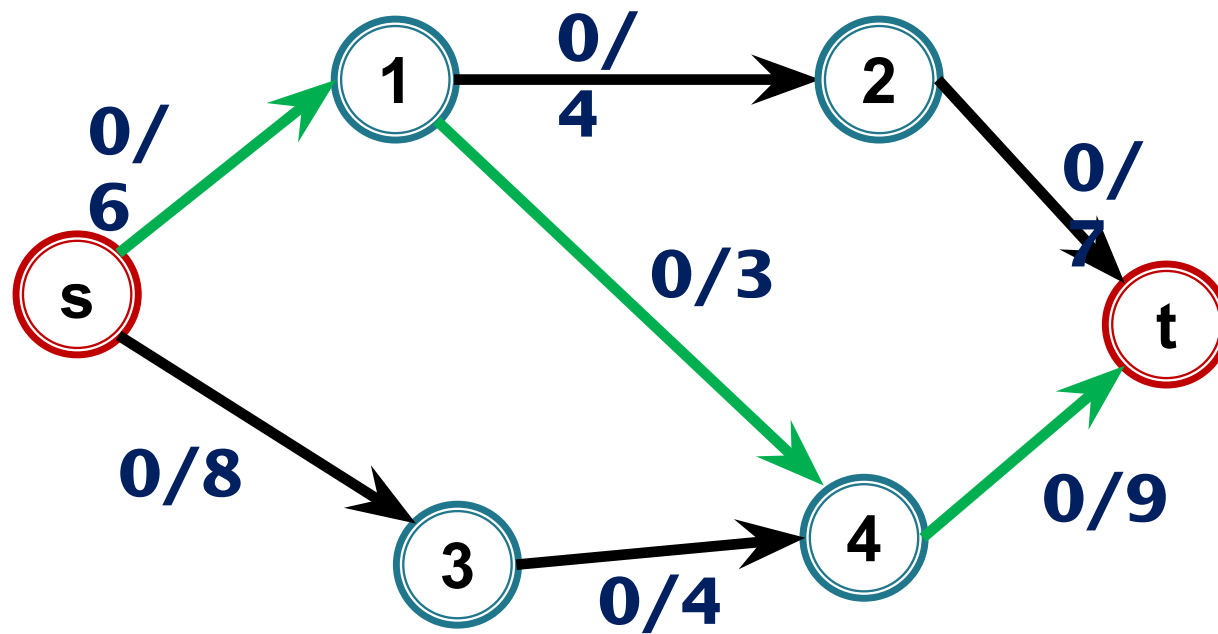
Încercăm să trimitem marfă (flux) **de la vârful sursă s la destinația t**



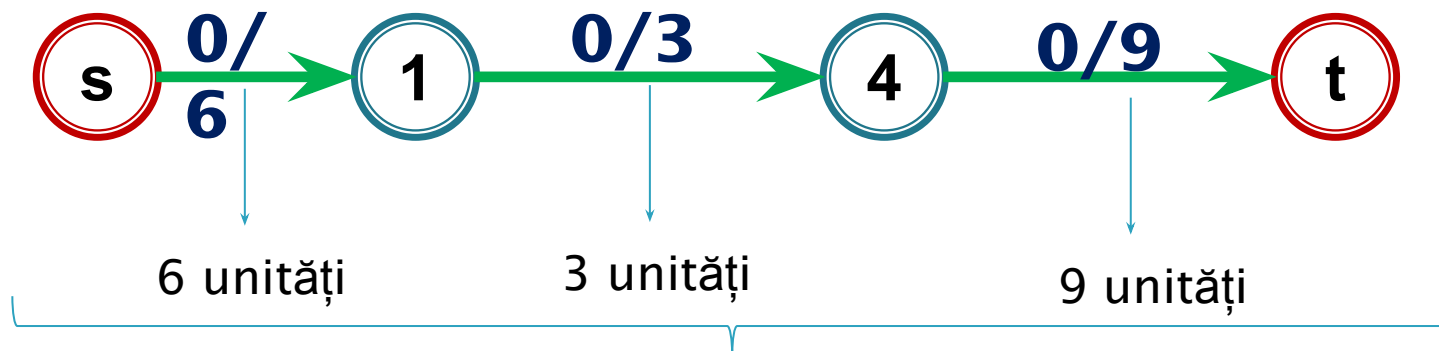
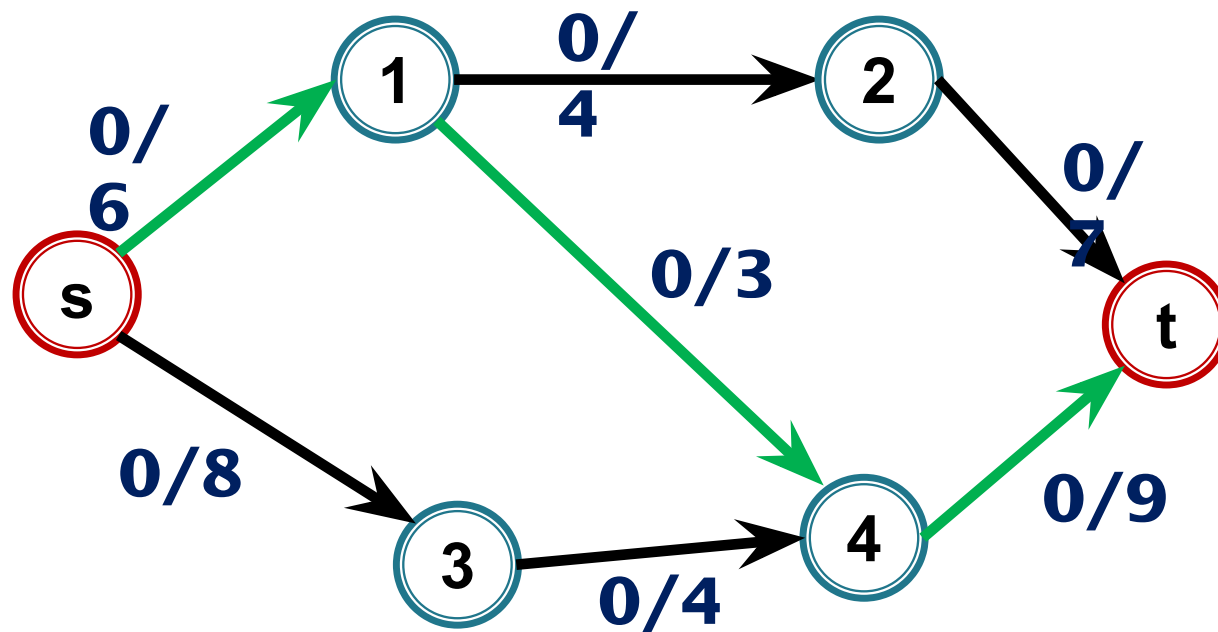
**Determinăm drumuri de la s la t pe care mai putem trimite marfă**



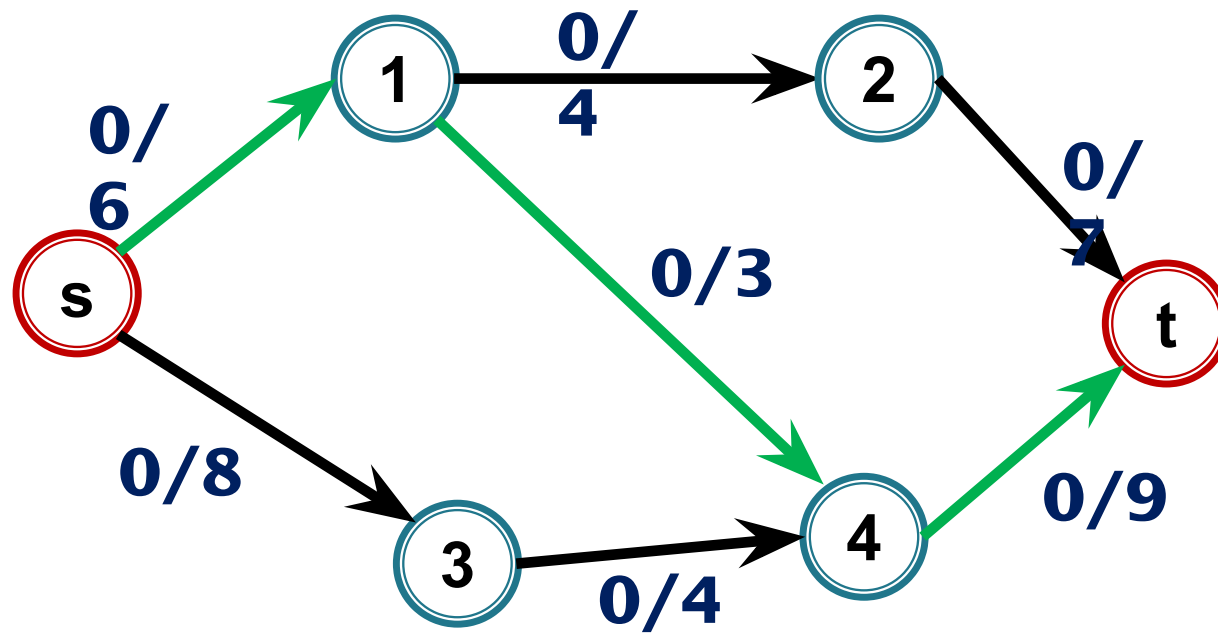




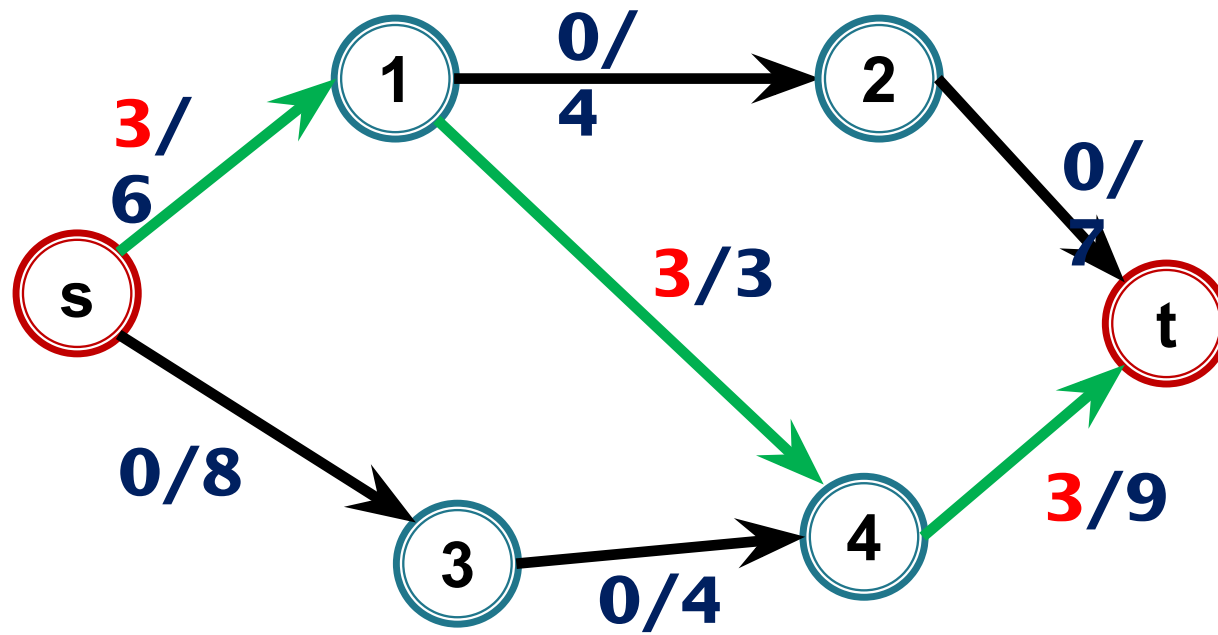


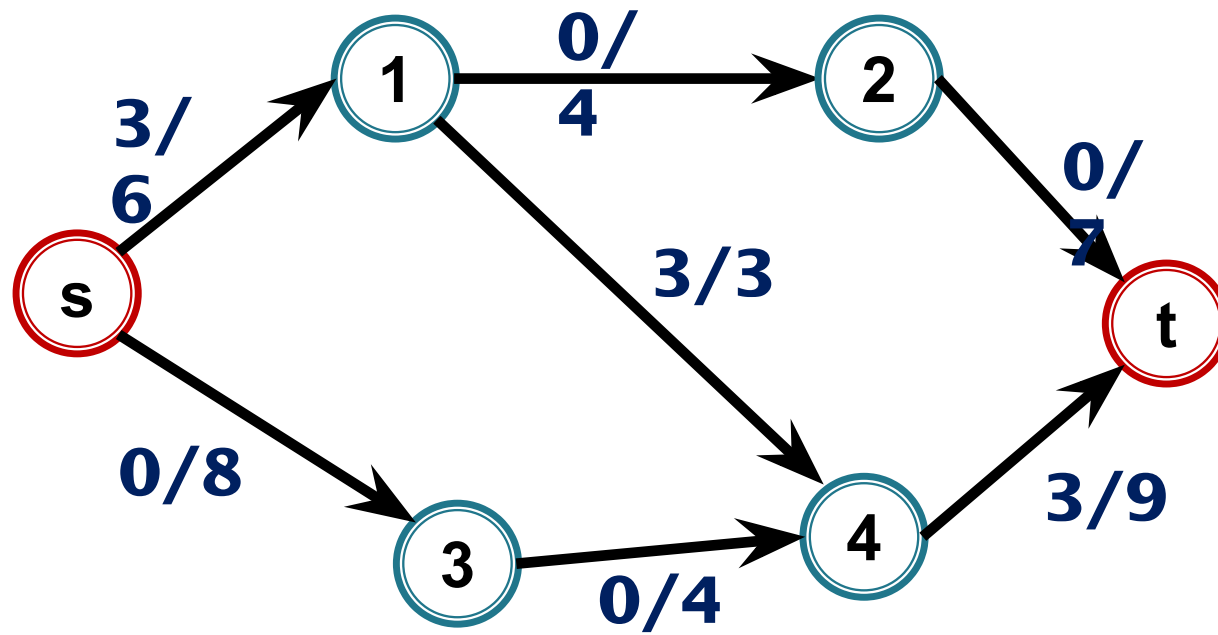


**3 unități de-a lungul întregului drum**

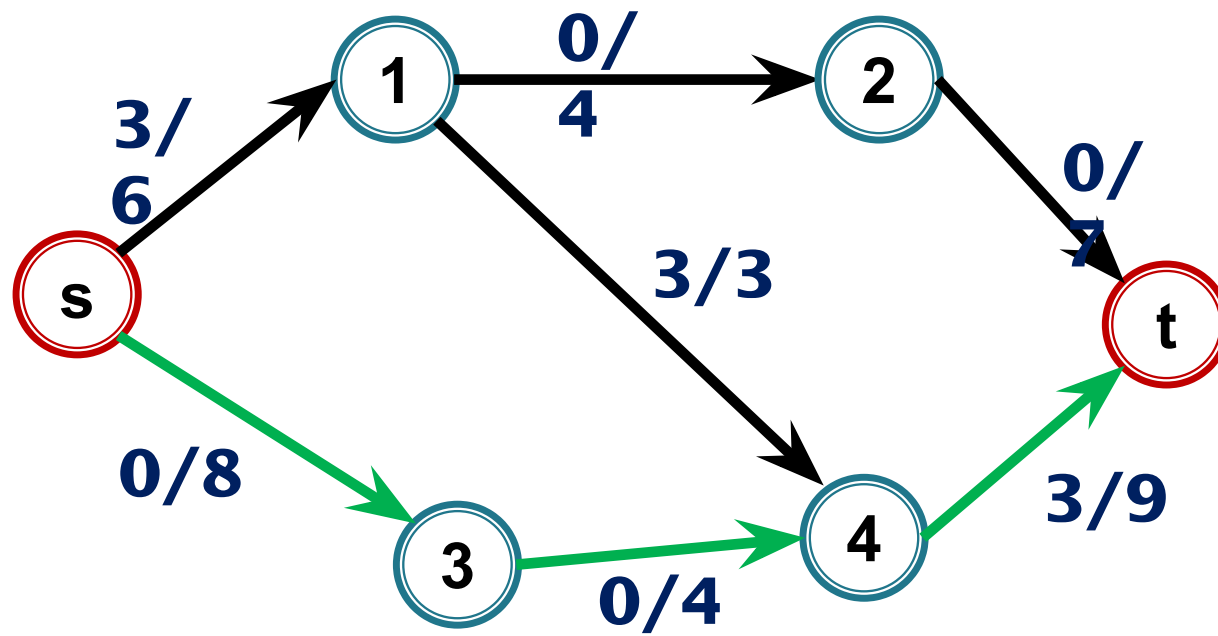


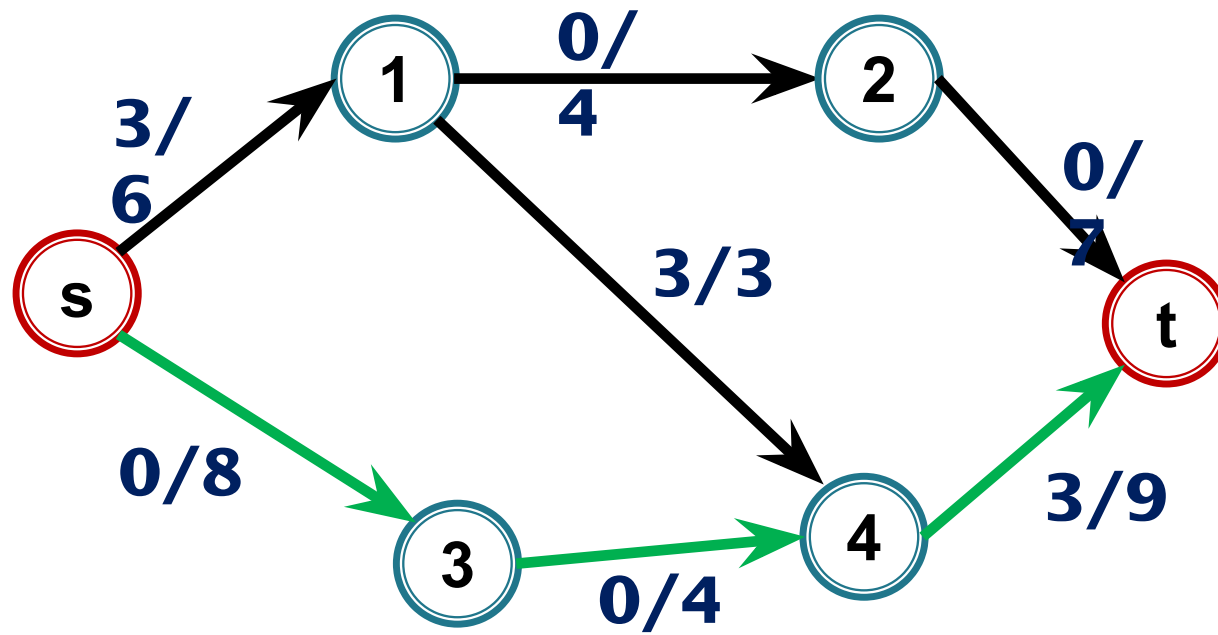
**Putem trimite 3 unități de-a lungul întregului drum**

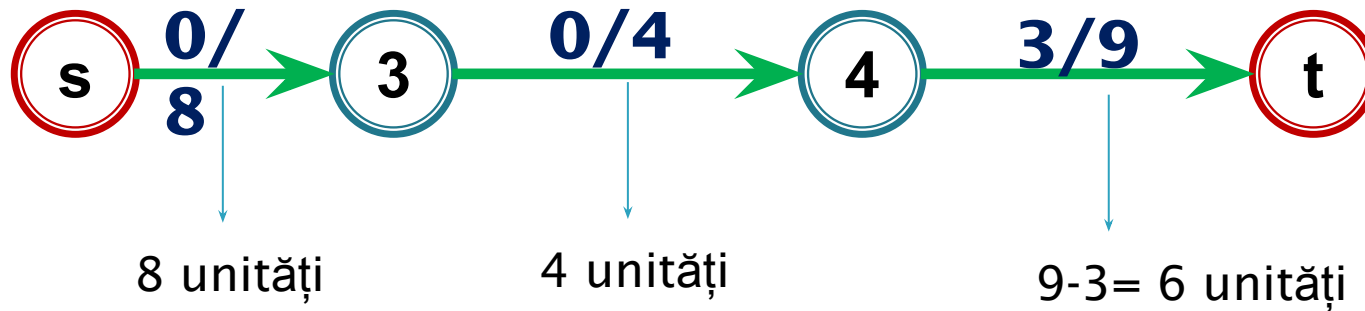
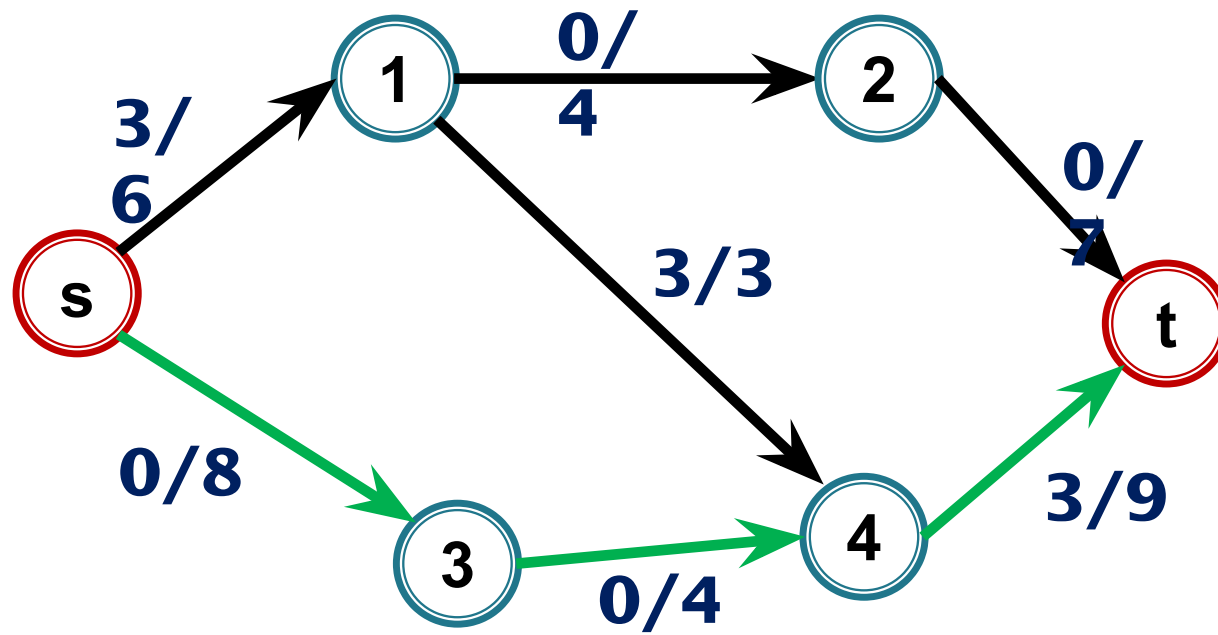


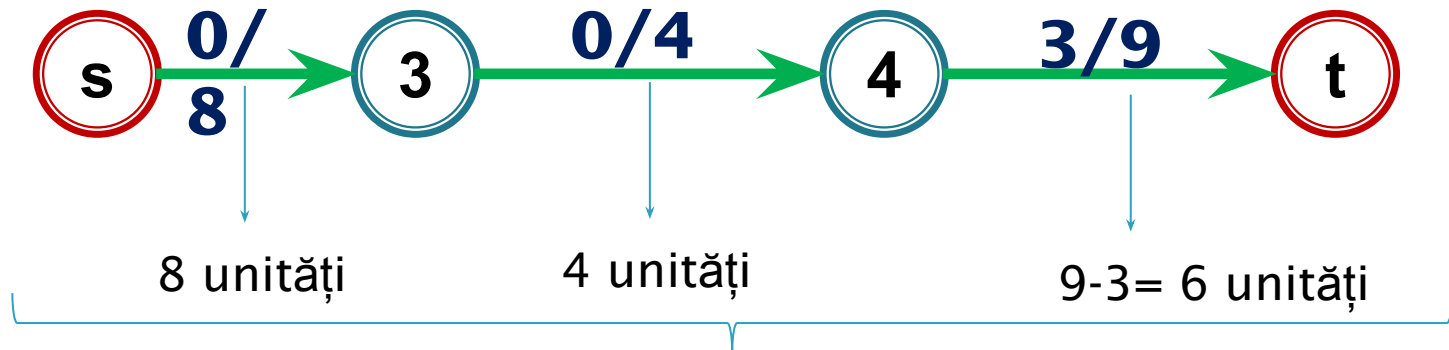
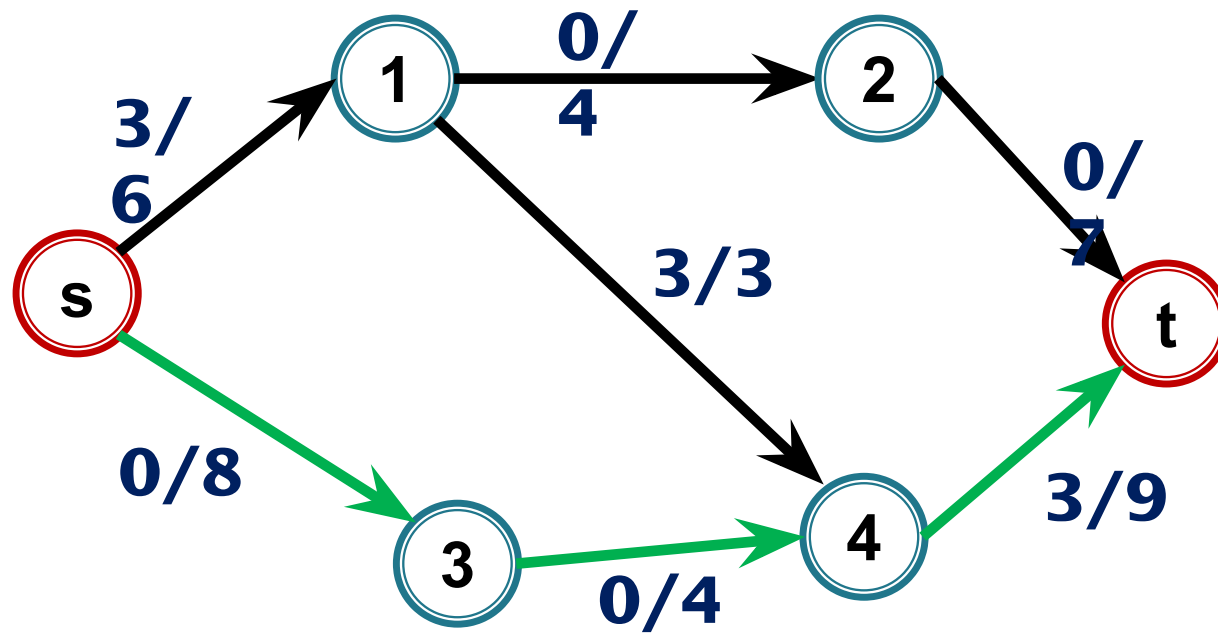


**Căutăm alt drum de la s la t pe care mai  
putem trimite flux**



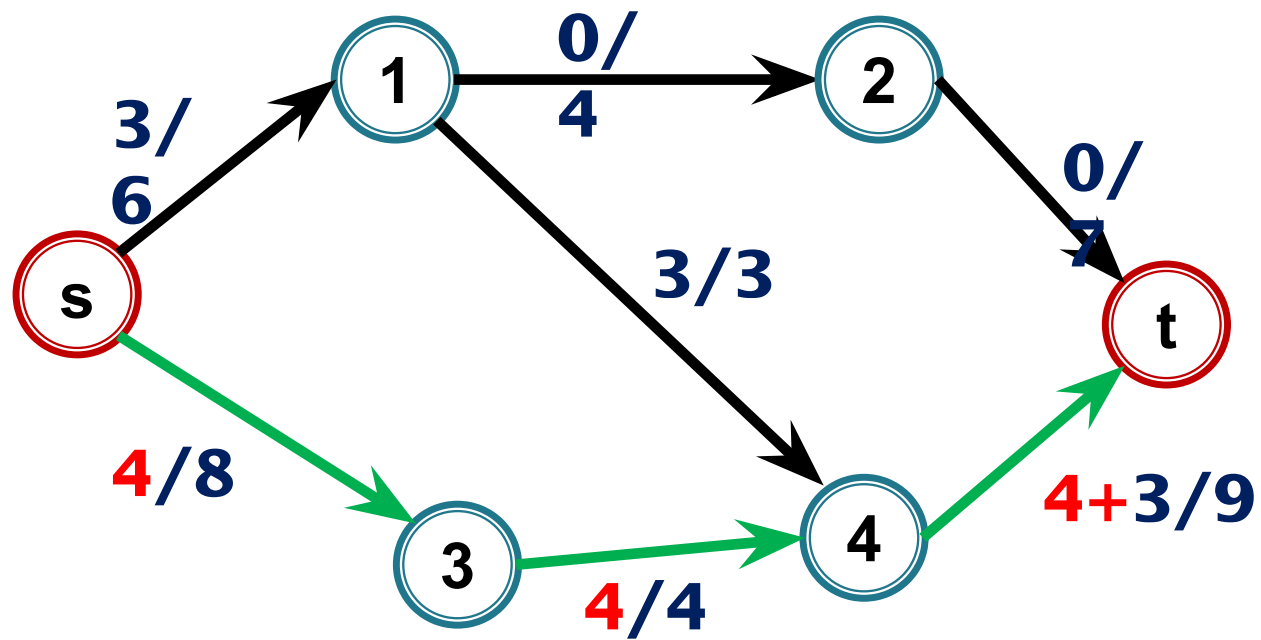


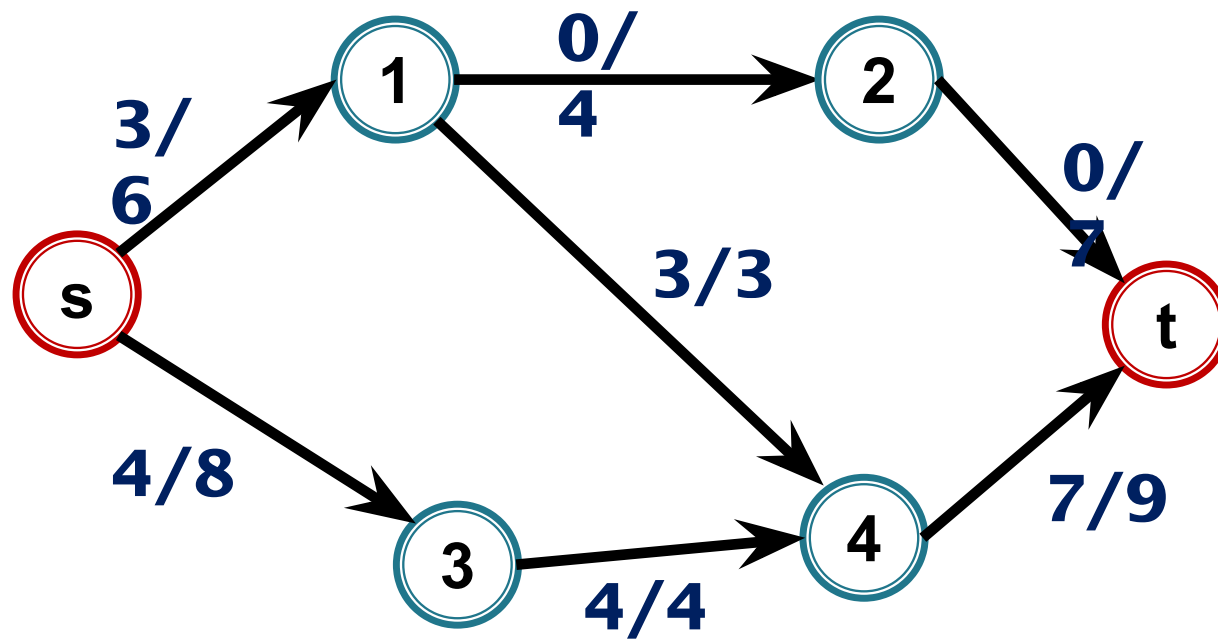


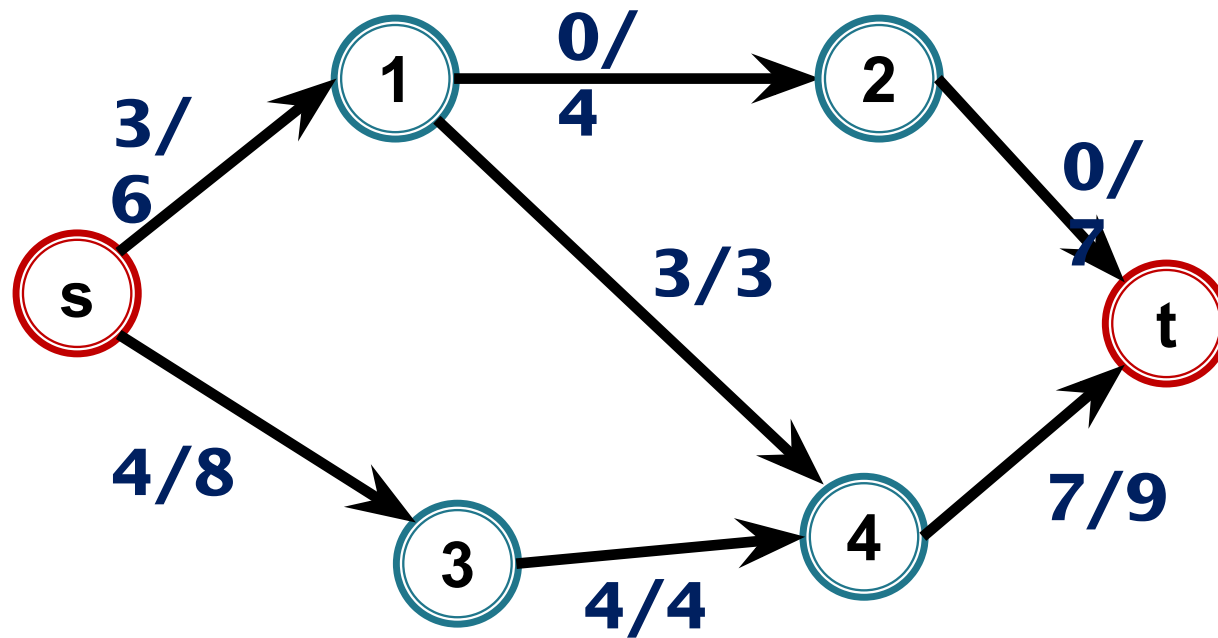


**4 unități de-a lungul întregului drum**

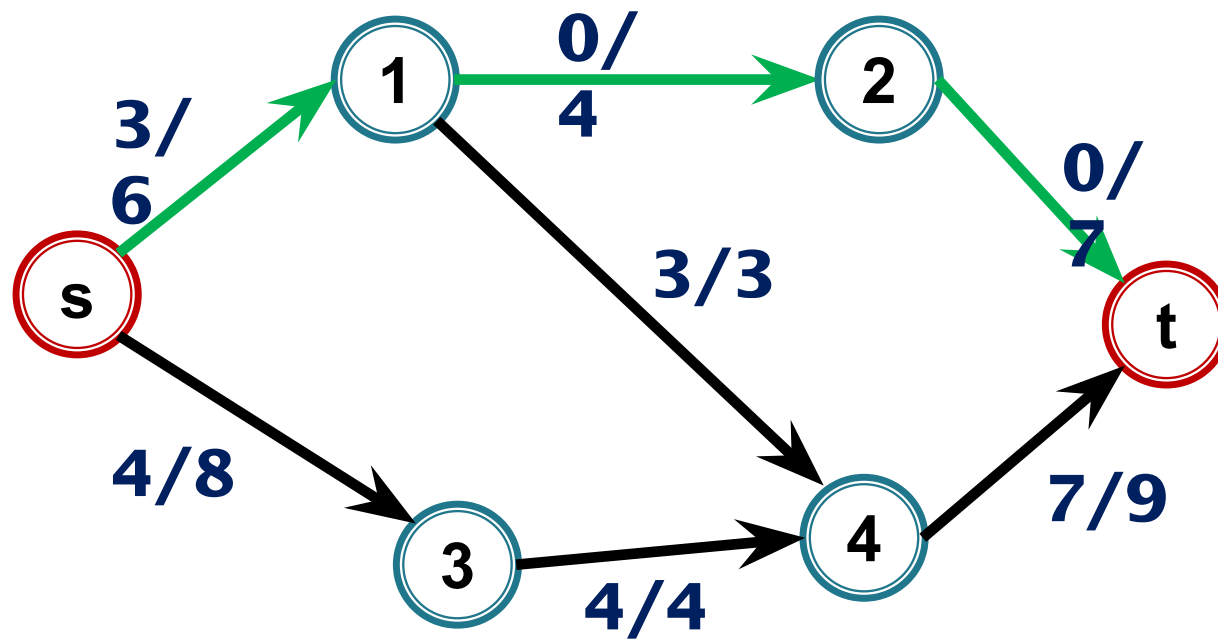


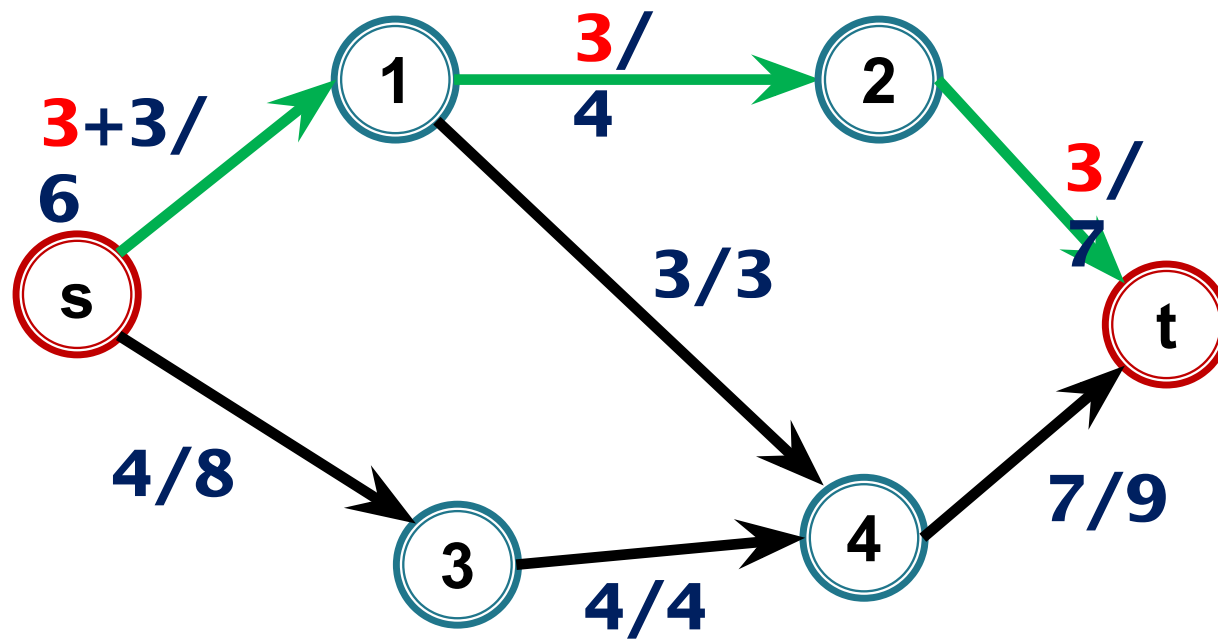


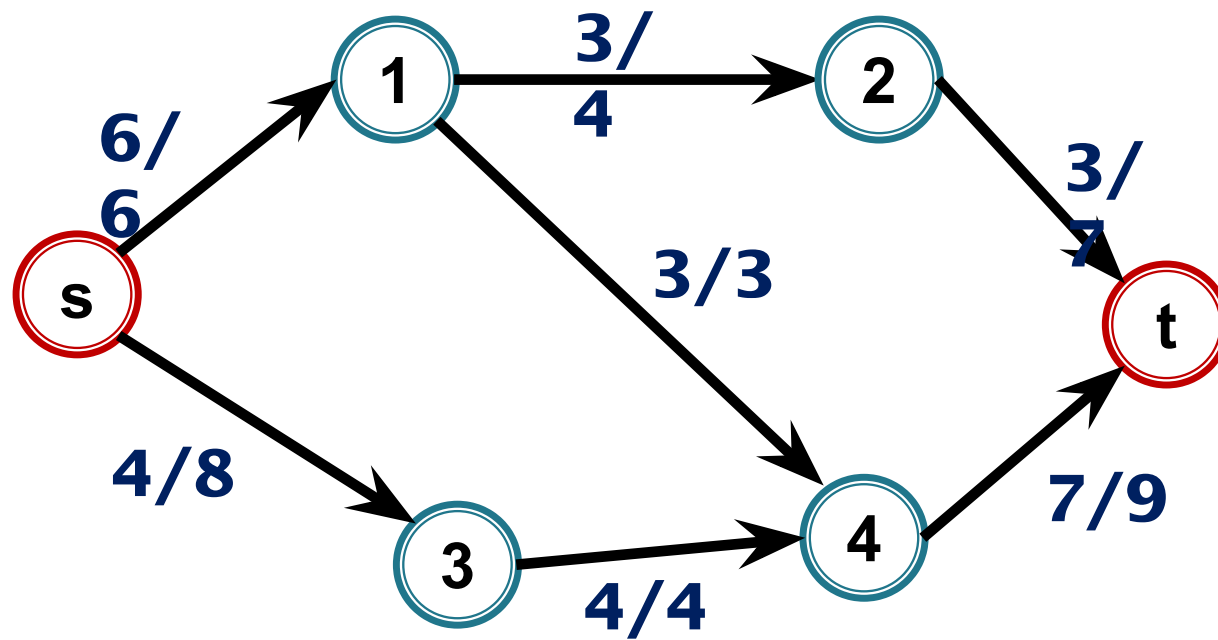


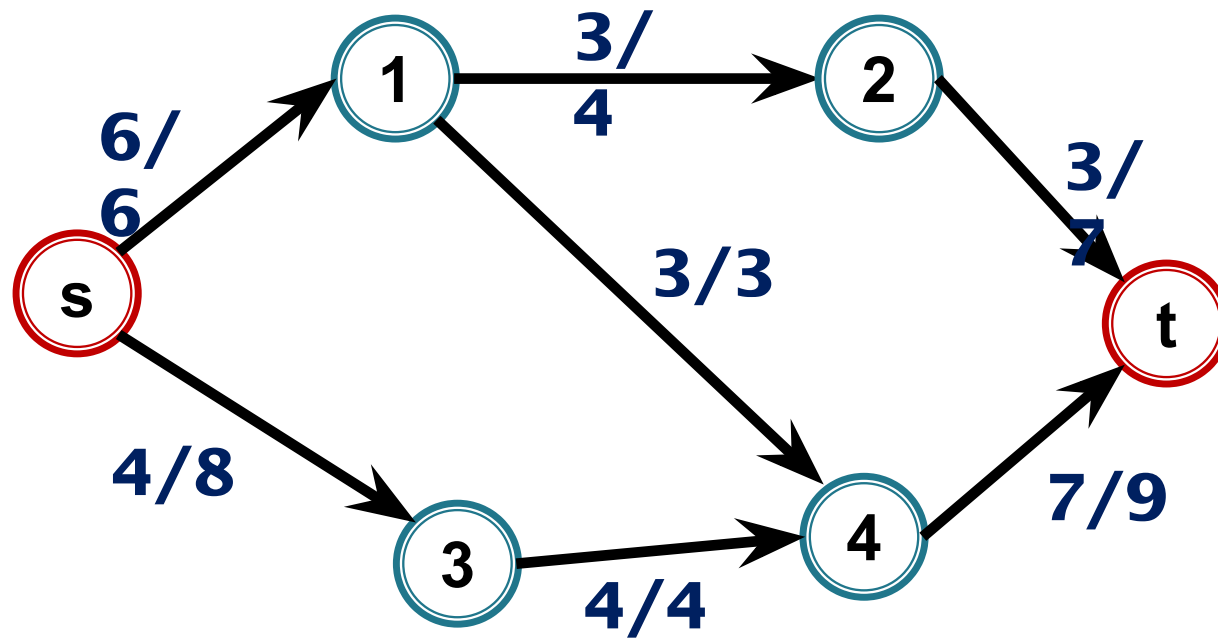


**Căutăm alt drum de la s la t pe care mai putem trimite flux**

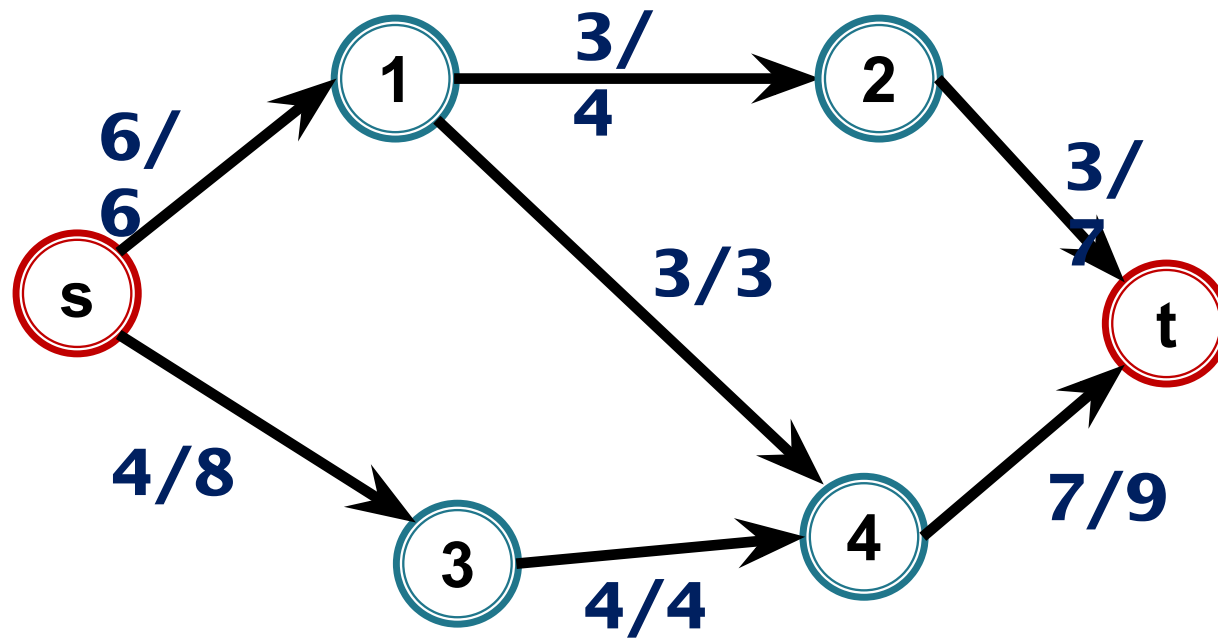






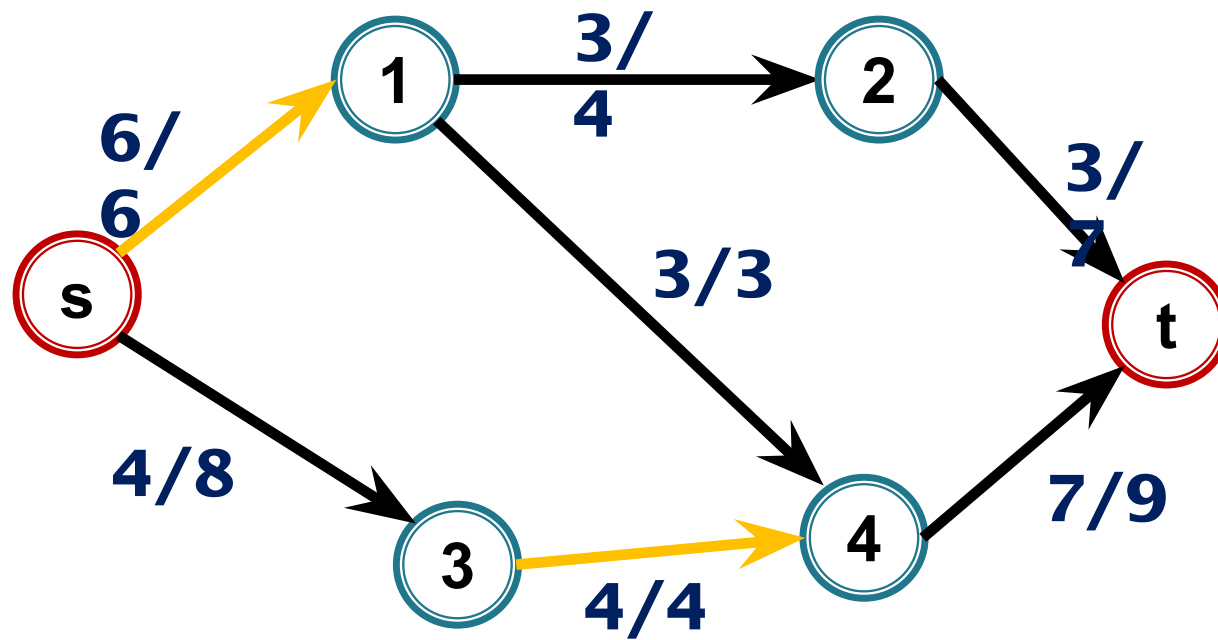


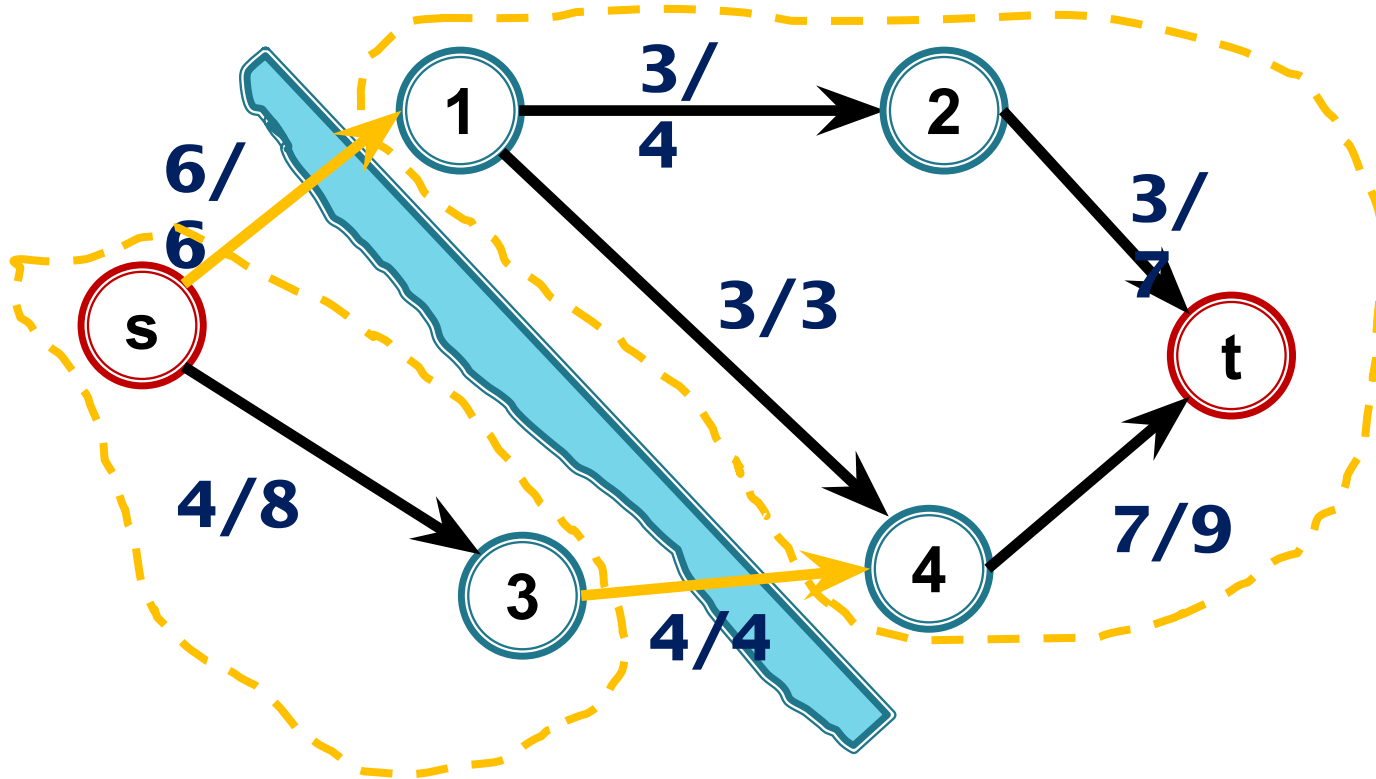
**Nu mai există drumuri de la s la t pe care  
mai putem trimite flux**

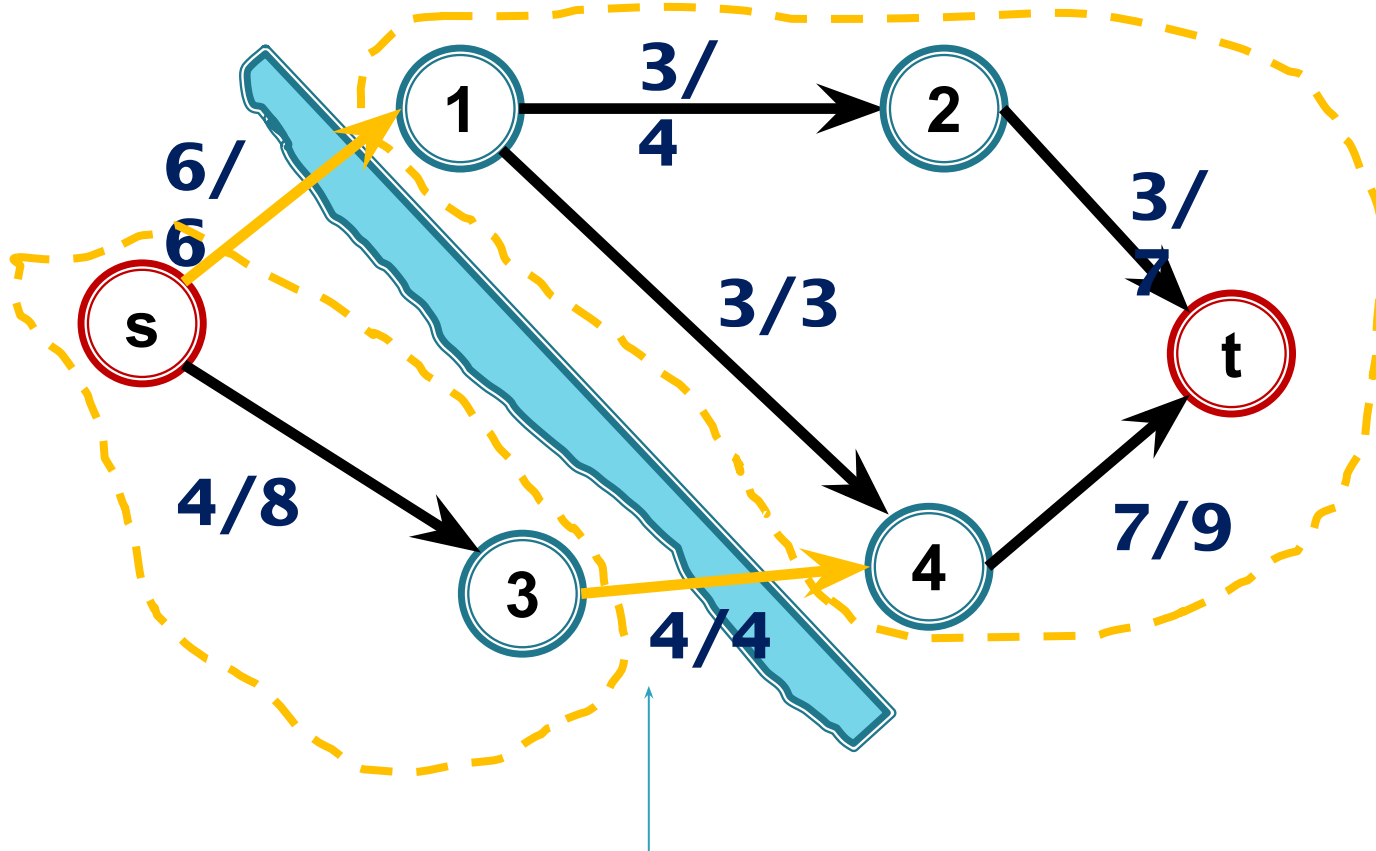


**Este maxim  
fluxul?**









- singurele arce (“poduri”) care trec din regiunea lui  $s$  în cea a lui  $t$  nu mai pot fi folosite pentru a trimite flux (au fluxul = capacitatea)  $\Rightarrow$  fluxul este maxim
- **$s$ - $t$  tăietură**

