

Algorithmen zur Visualisierung von Graphen

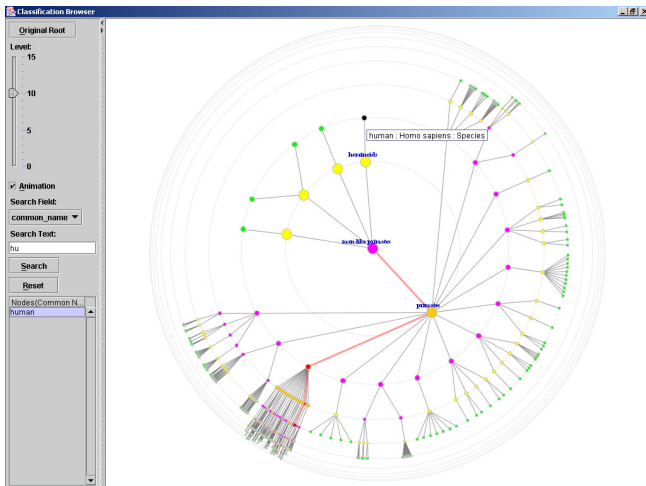
Teile & Herrsche-Algorithmen:
Bäume und serienparallele Graphen

Vorlesung im Sommersemester 2009

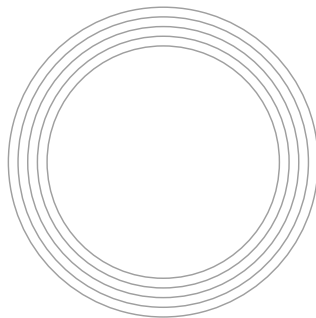
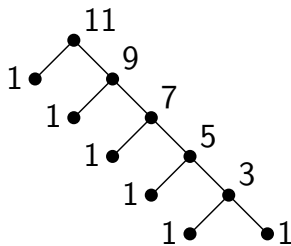
Martin Nöllenburg

09.07.2009

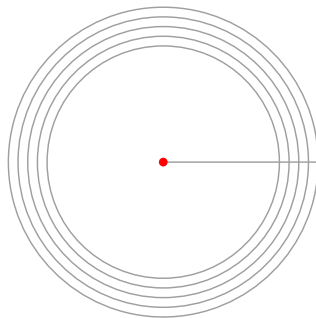
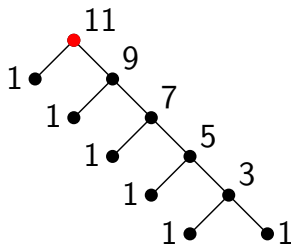
Radiale Baumlayouts



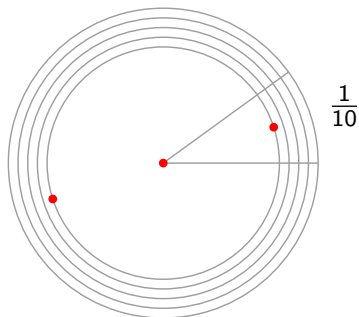
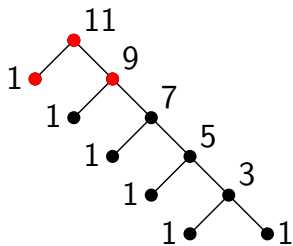
Beispiel Radiallayout



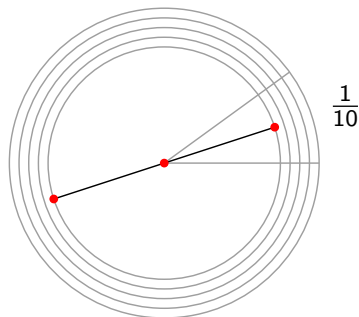
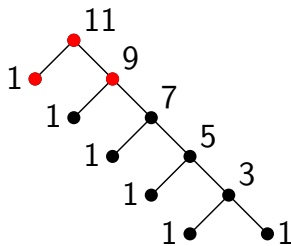
Beispiel Radiallayout



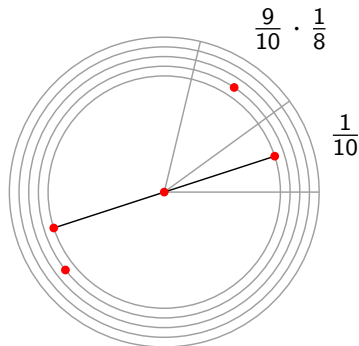
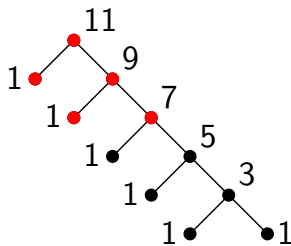
Beispiel Radiallayout



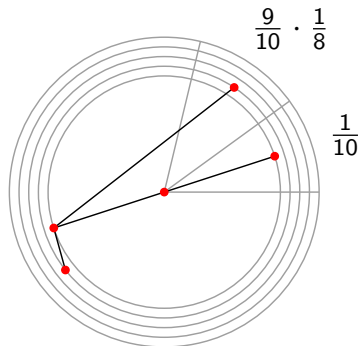
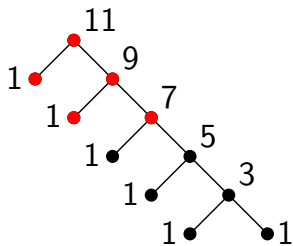
Beispiel Radiallayout


 $\frac{1}{10}$

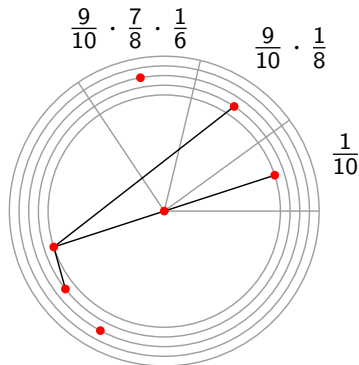
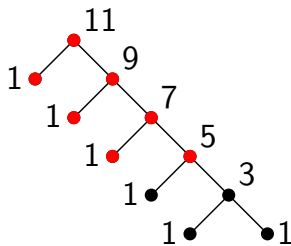
Beispiel Radiallayout



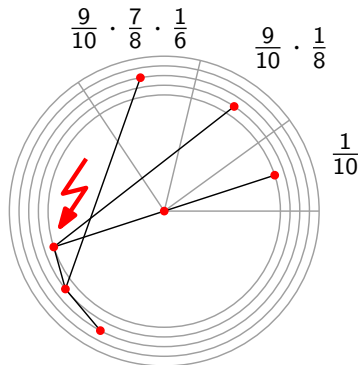
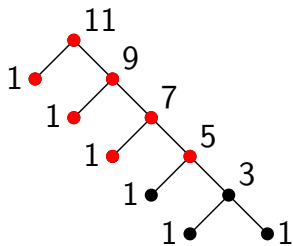
Beispiel Radiallayout



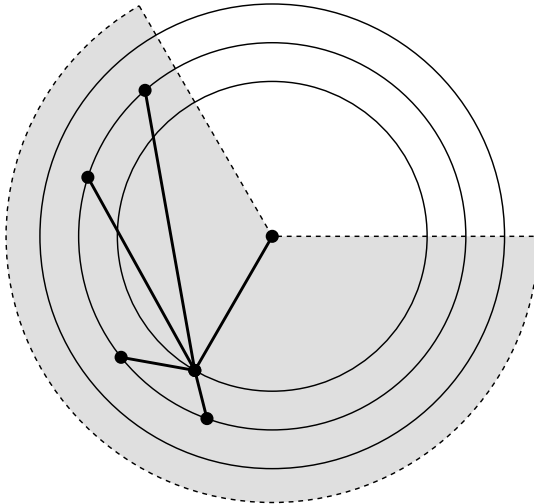
Beispiel Radiallayout



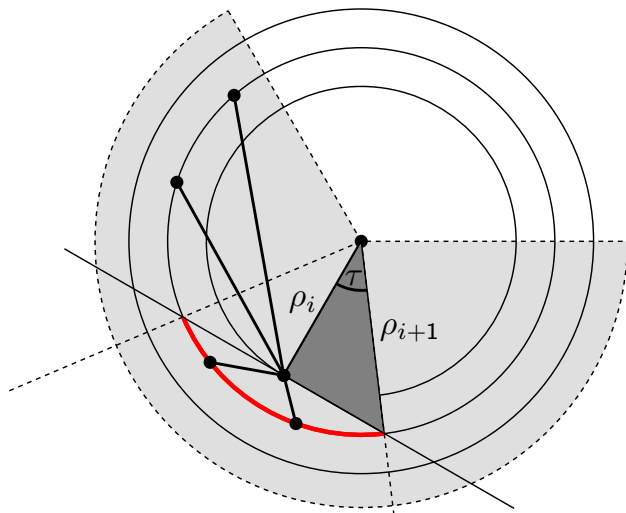
Beispiel Radiallayout



Verlassen des Kreisringsektors

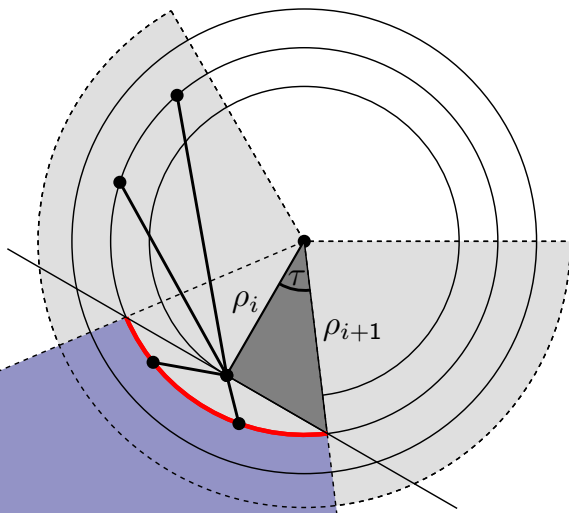


Verlassen des Kreisringsektors



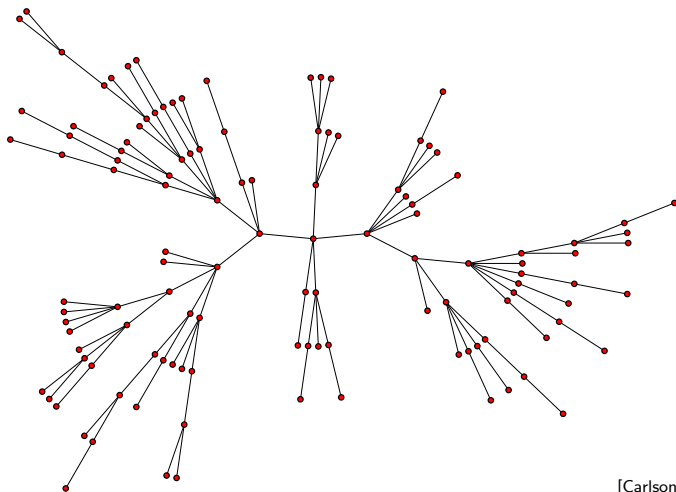
$$\cos \tau = \frac{\rho_i}{\rho_{i+1}}$$

Verlassen des Kreisringsektors



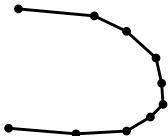
$$\cos \tau = \frac{\rho_i}{\rho_{i+1}}$$

Konvexe Baumlayouts mit optimalen Winkeln

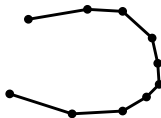


[Carlson, Eppstein '07]

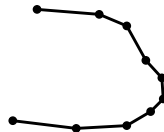
Definition: konvexer Bogen, konvexe Facette



konvexer Bogen:
Winkelintervall $\leq \pi$

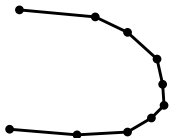


kein konvexer Bogen:
Winkelintervall $> \pi$

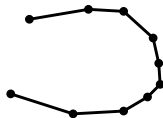


kein konvexer Bogen:
Winkelfolge nicht monoton

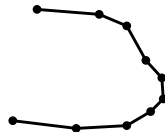
Definition: konvexer Bogen, konvexe Facette



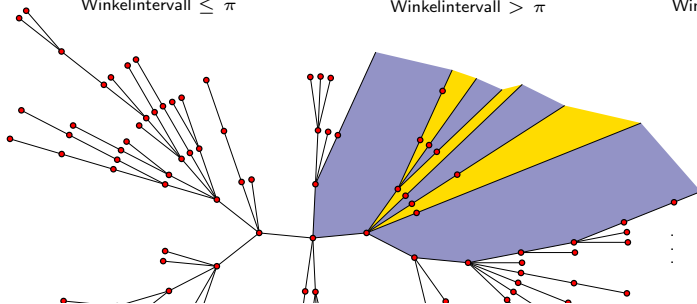
konvexer Bogen:
Winkelintervall $\leq \pi$



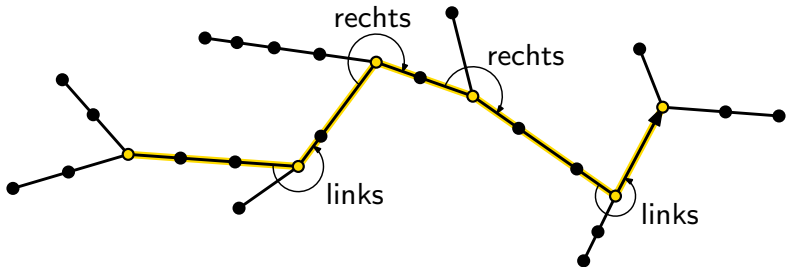
kein konvexer Bogen:
Winkelintervall $> \pi$



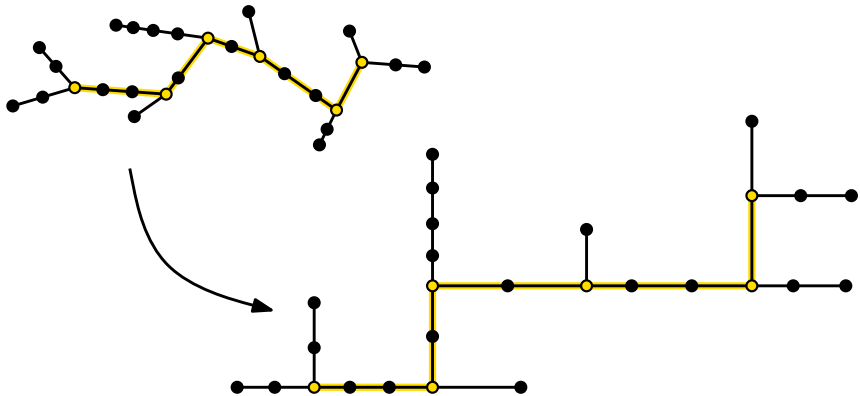
kein konvexer Bogen:
Winkelfolge nicht monoton



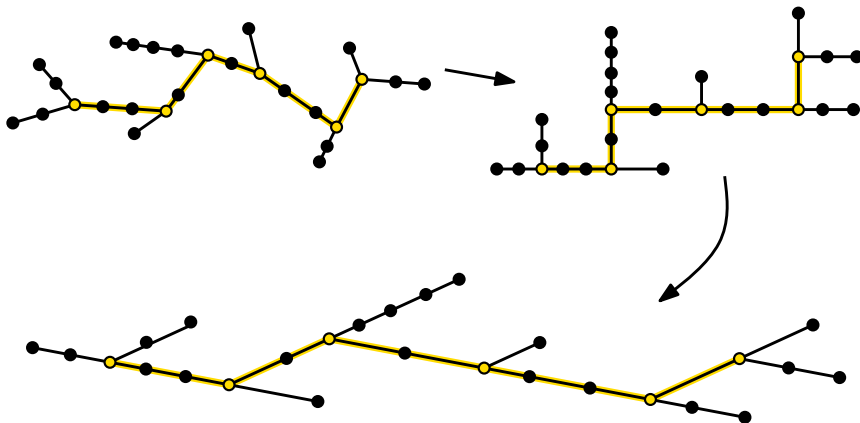
Definition: Ranke



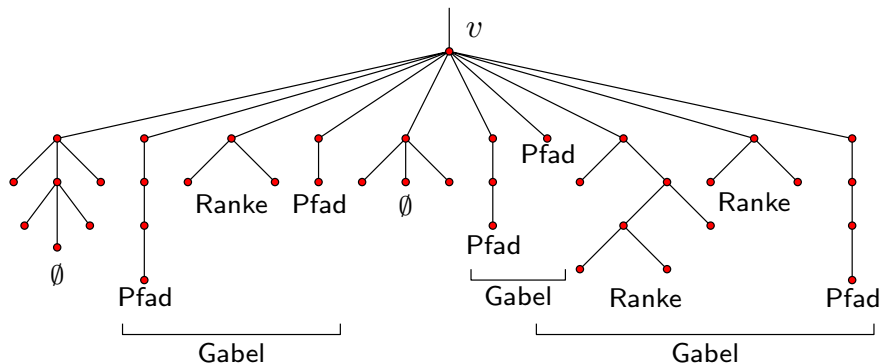
Definition: Ranke



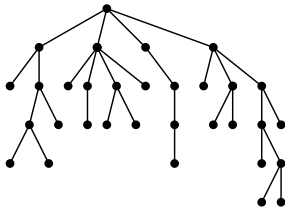
Definition: Ranke



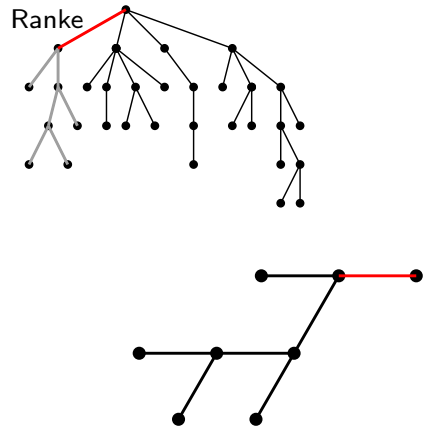
Pfade, Ranken, Gabeln



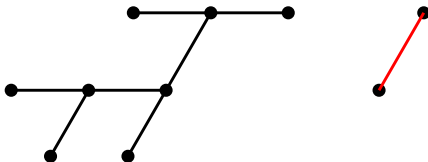
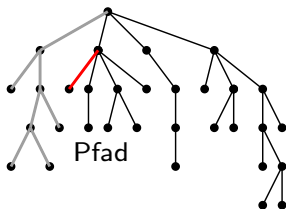
Beispiel



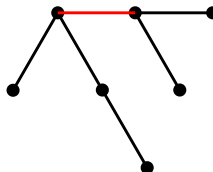
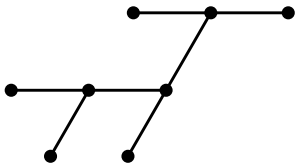
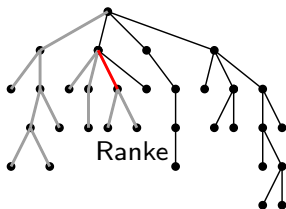
Beispiel



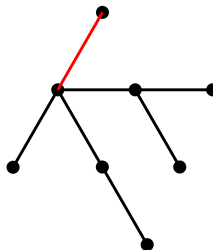
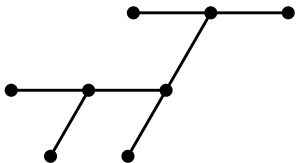
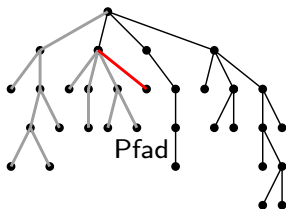
Beispiel



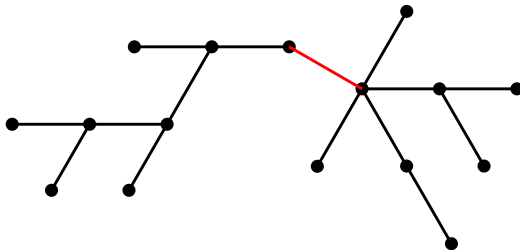
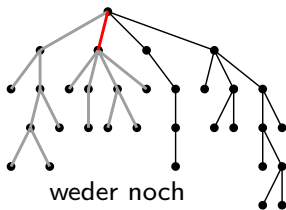
Beispiel



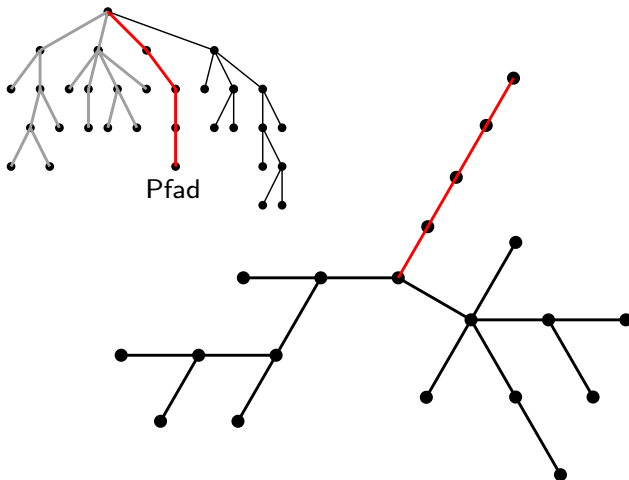
Beispiel



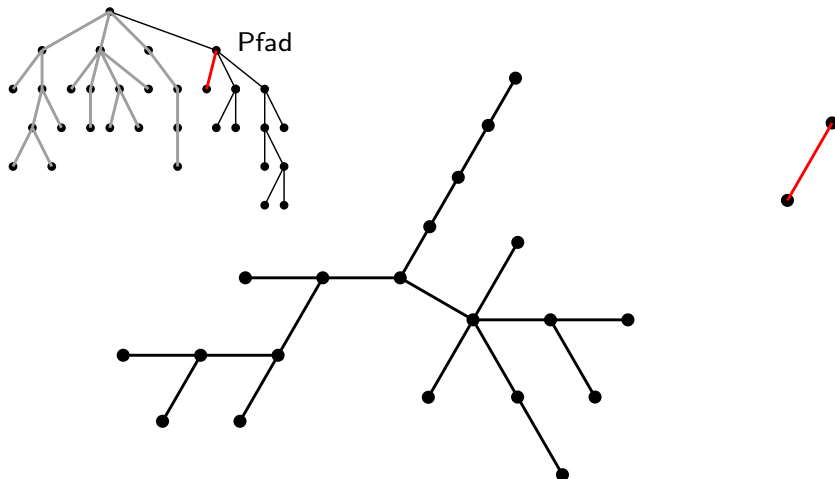
Beispiel



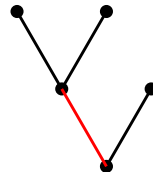
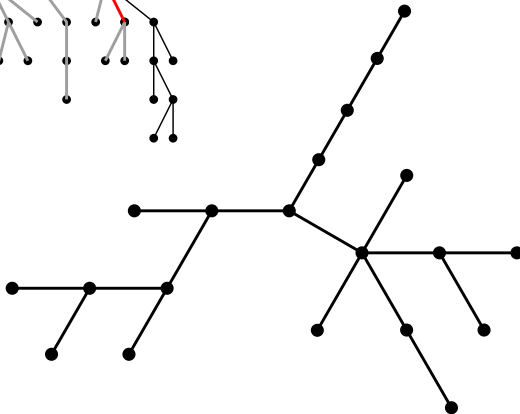
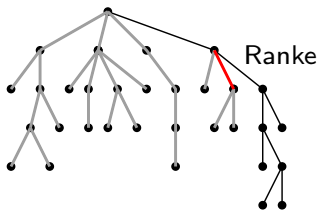
Beispiel



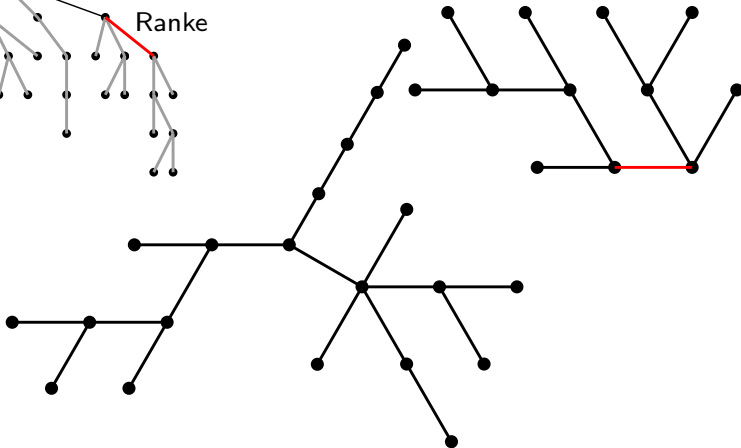
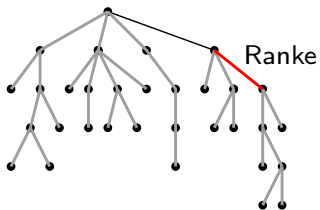
Beispiel



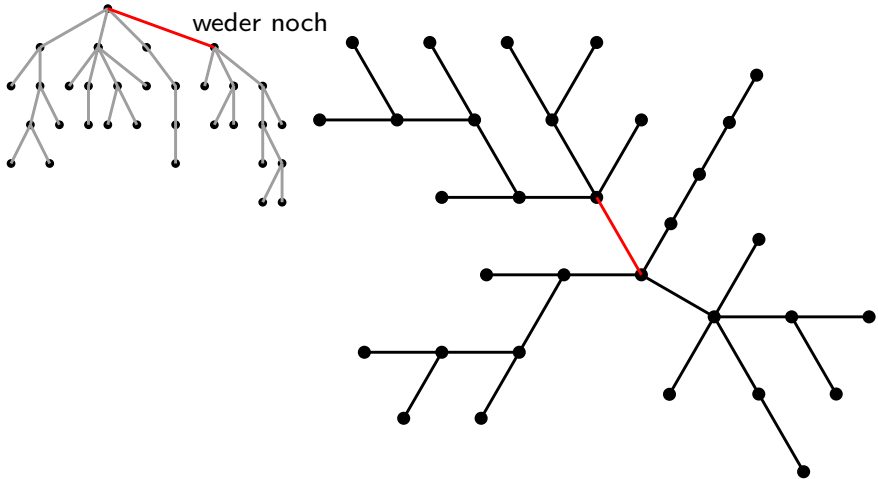
Beispiel



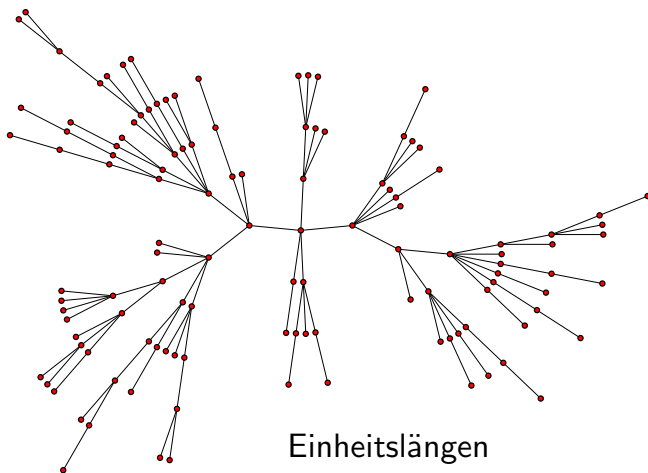
Beispiel



Beispiel

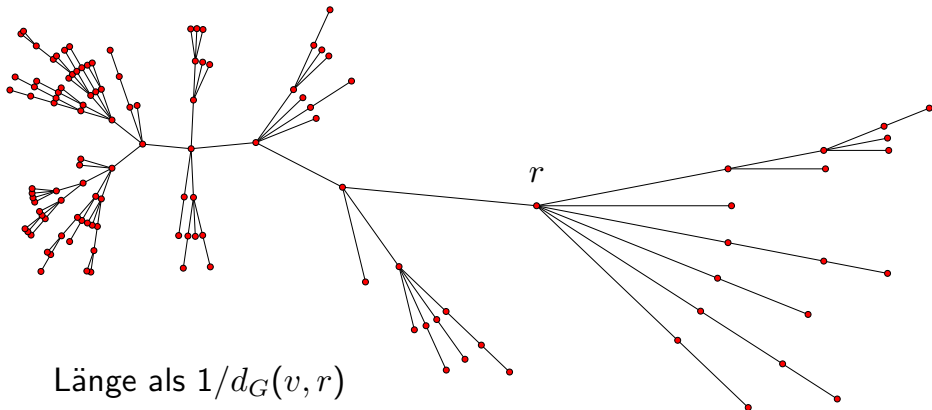


Längenzuweisungen

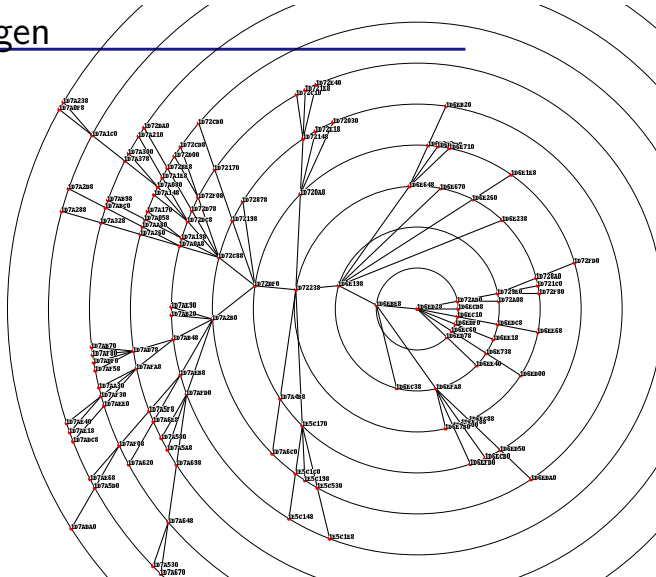


Einheitslängen

Längenzuweisungen

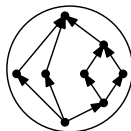


Längenzuweisungen

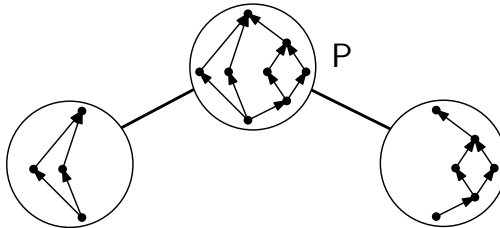


Radiallayout

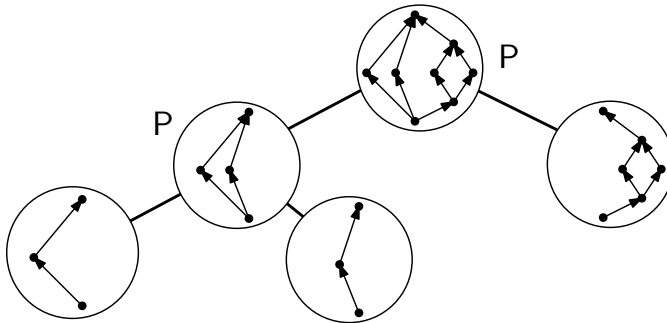
Serienparallele Graphen: Dekompositionsbaum



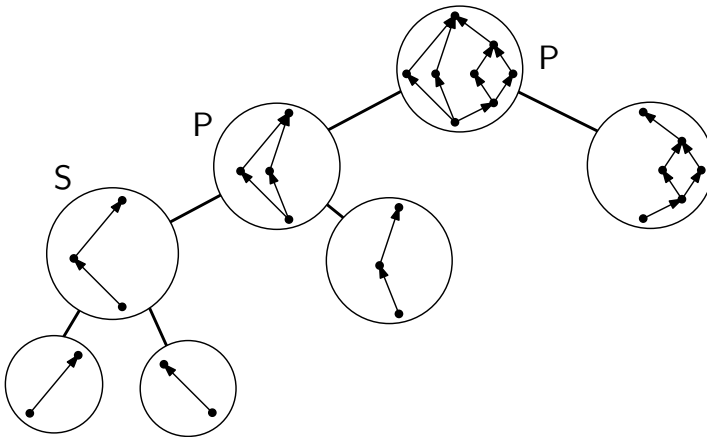
Serienparallele Graphen: Dekompositionsbaum



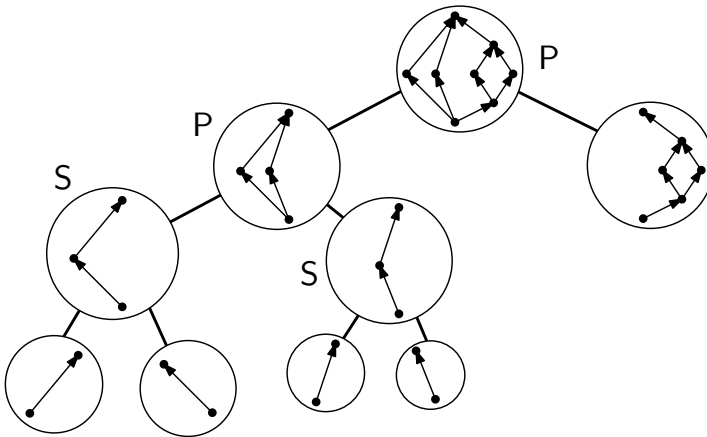
Serienparallele Graphen: Dekompositionsbaum



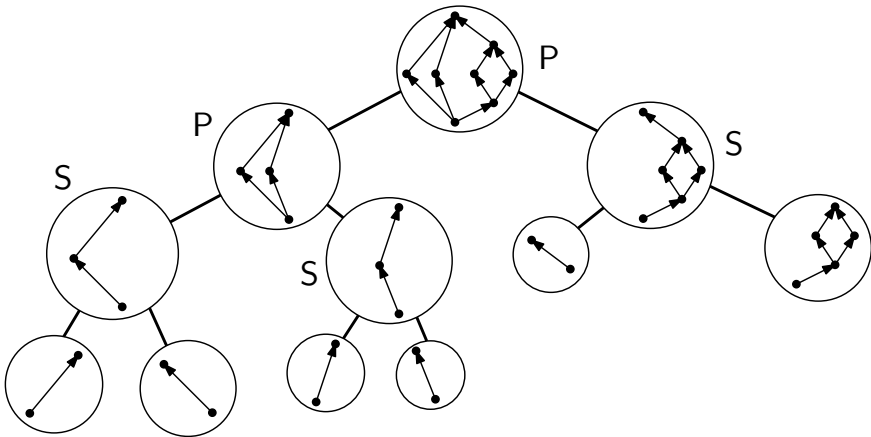
Serienparallele Graphen: Dekompositionsbaum



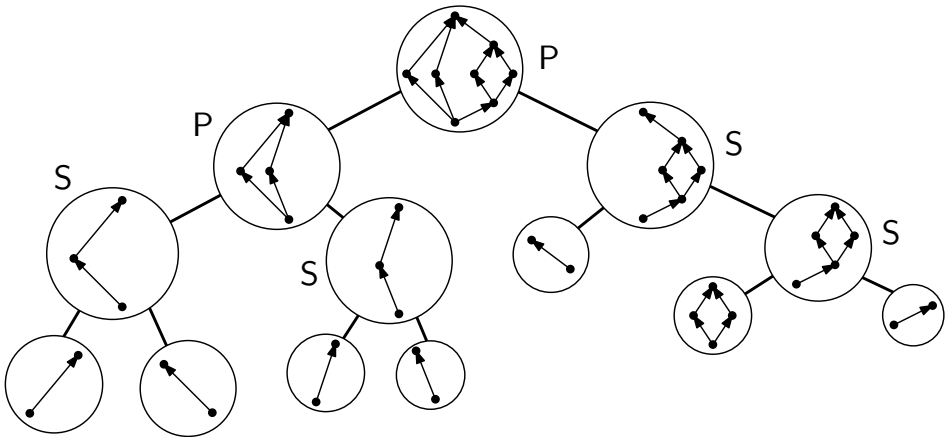
Serienparallele Graphen: Dekompositionsbaum



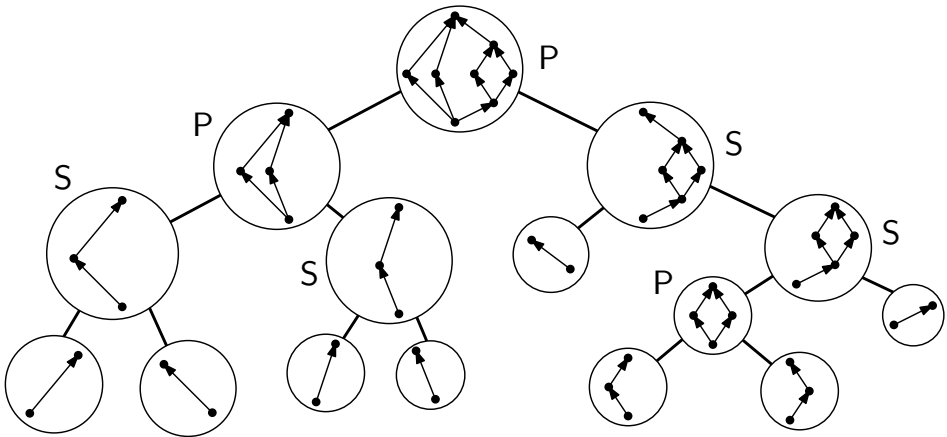
Serienparallele Graphen: Dekompositionsbaum



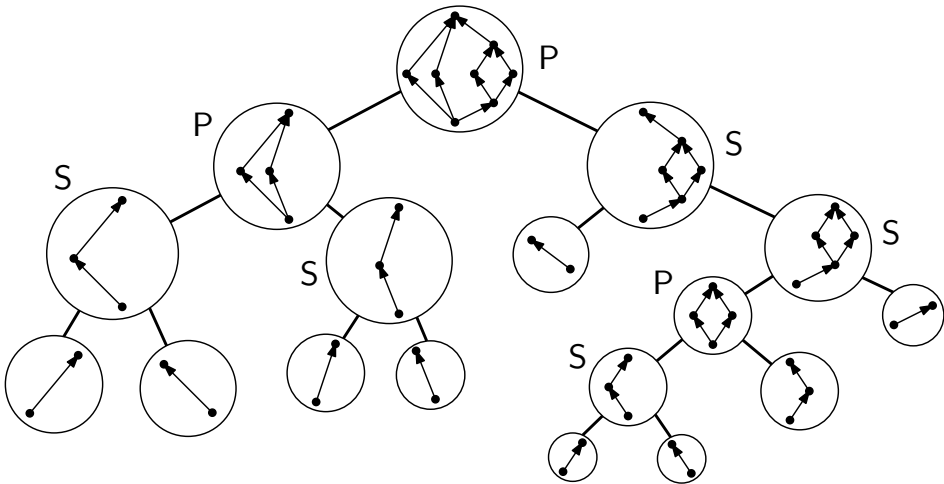
Serienparallele Graphen: Dekompositionsbaum



Serienparallele Graphen: Dekompositionsbaum



Serienparallele Graphen: Dekompositionsbaum



Serienparallele Graphen: Dekompositionsbaum

