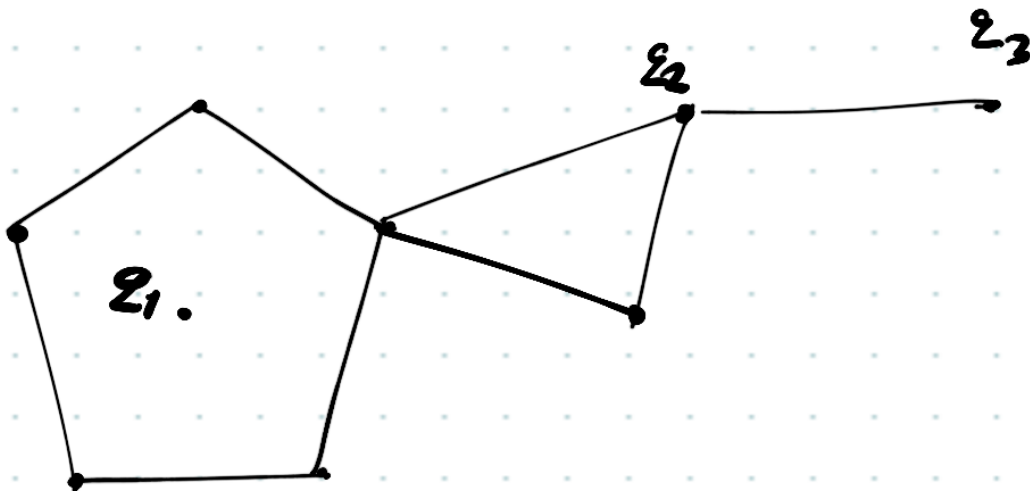


Curs 13

Probleme de localizare (Point location)

Motivație Dată o subdiviziune planară și un pct. q (query), să se det. poz. lui q în rap. cu subdiviz.



Subdivizare a planului în fâșii
(benzi) verticale (, slab")

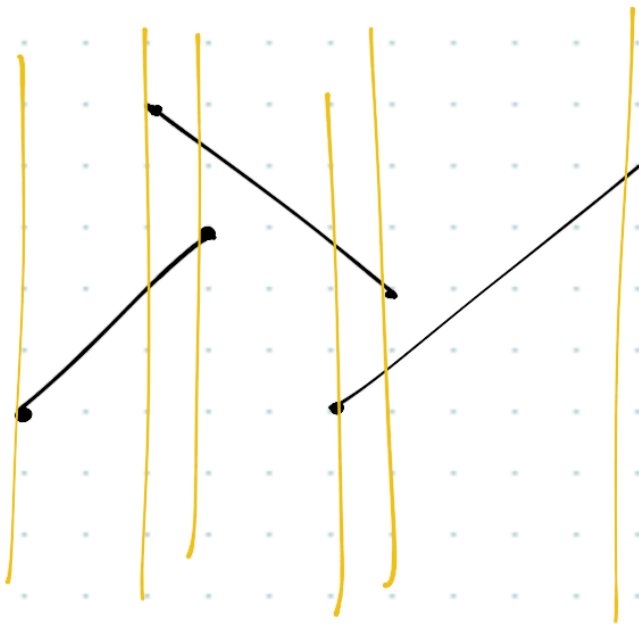
- Căutarea după abscisă

↳ pt identifi. păsier verticale

- căutarea în cadrul unei păsii

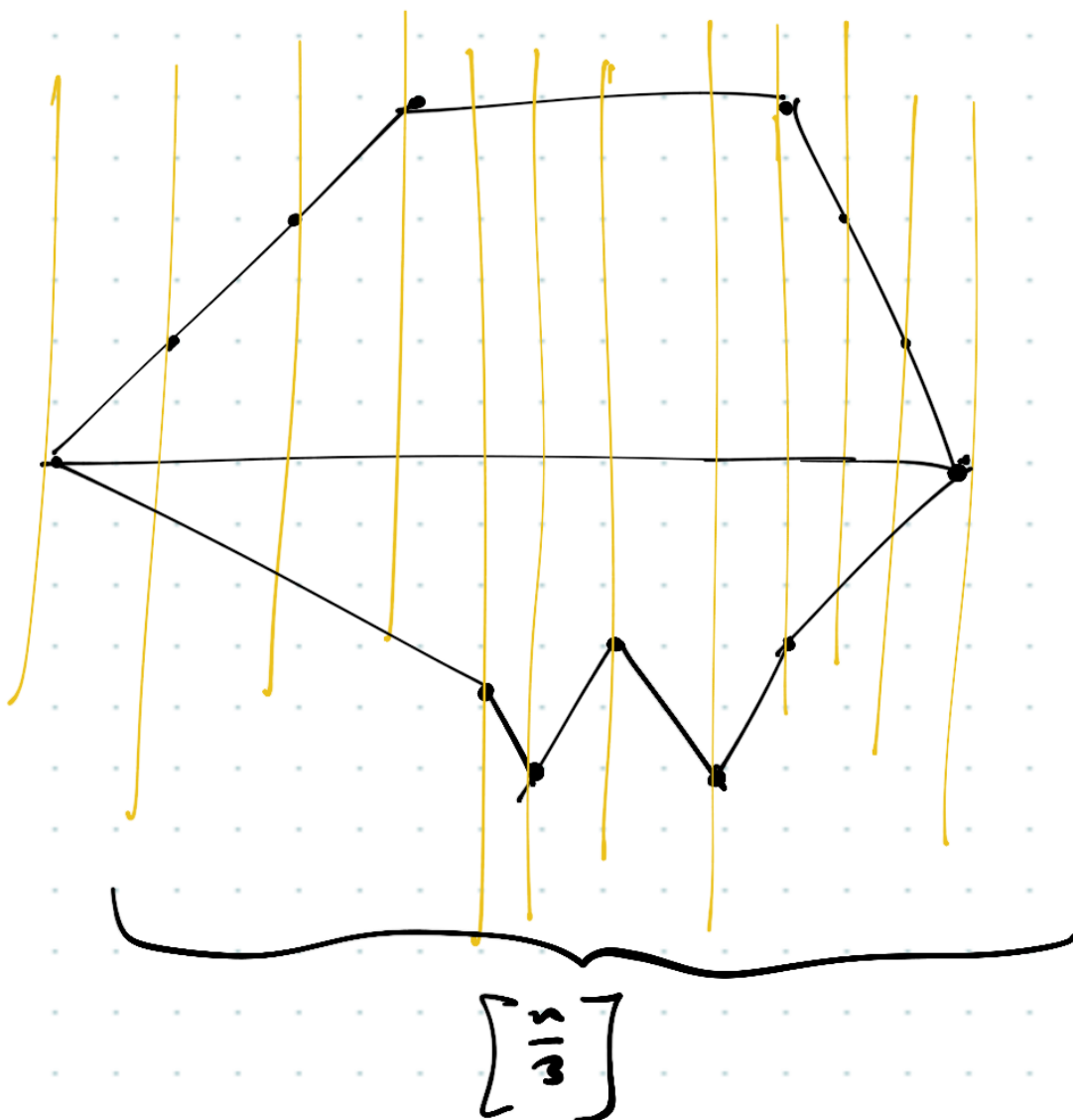
↳ fiind indicat elementul subdivizat care conține pct. q

↳ se realizează în raport cu segmente



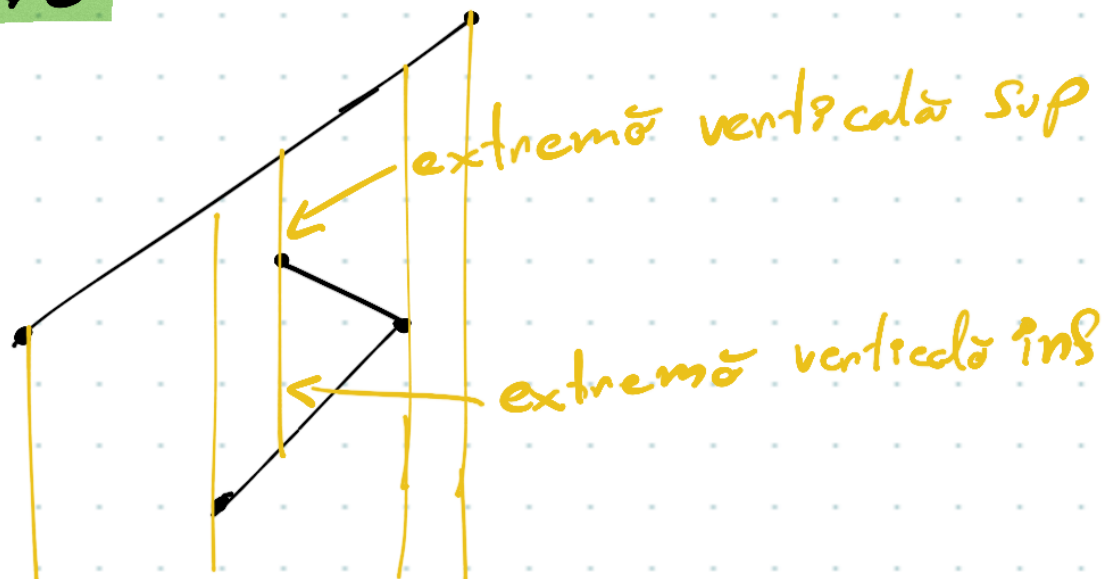
Obs 1) Identifi. păsier verticale
↳ timp de căutare $O(\log_2 n)$

2)

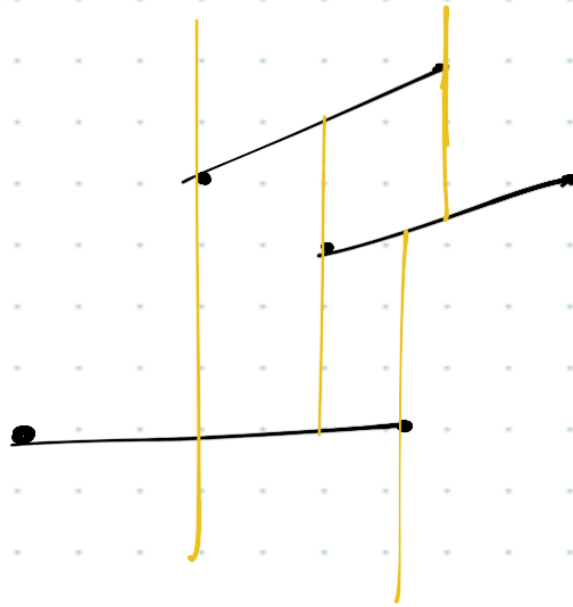


Harta trapezoidală a unei subdivizi

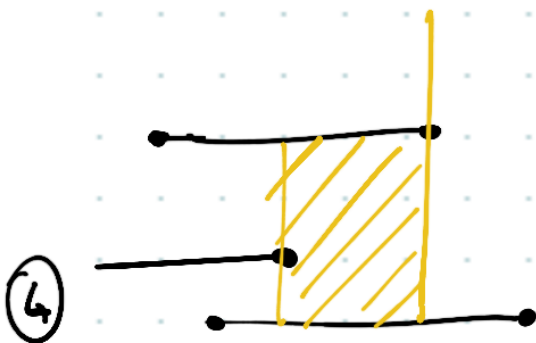
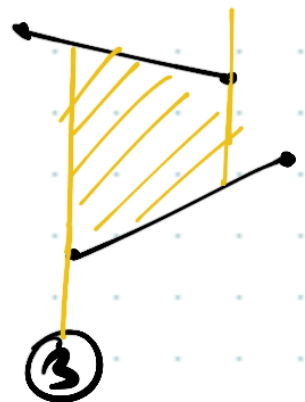
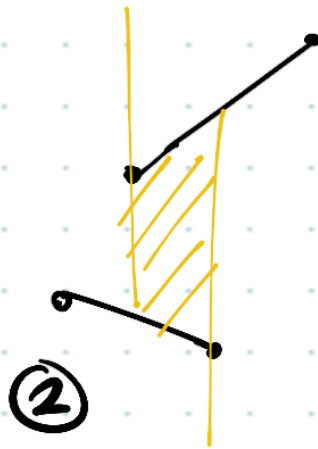
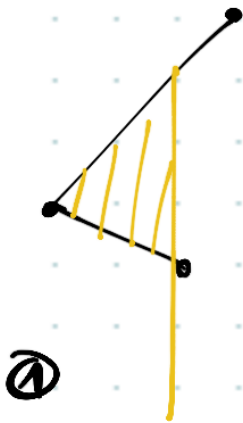
planare



Com este memorat un trapez?

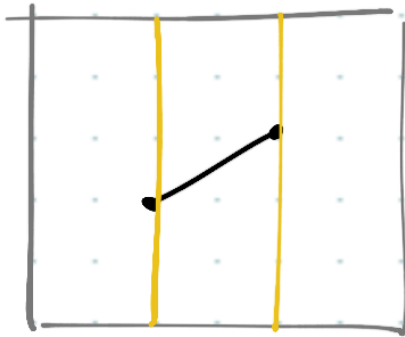


Obs Sunt posibile 5 config pt.
vârful $(p(T))$ asociat trapezului T



⑤ Vârful din D

Exp Pt rez referitor la nr de
trapeze / vf ale unei hărți trapezoidale

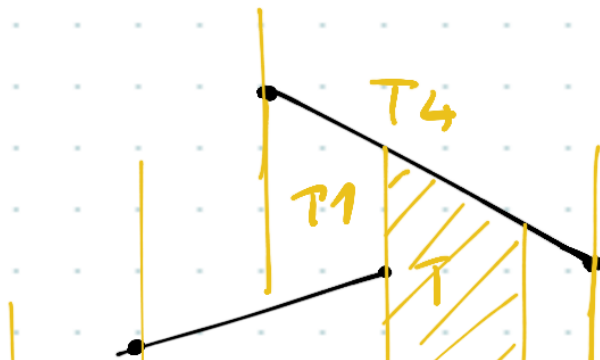


$n=1$

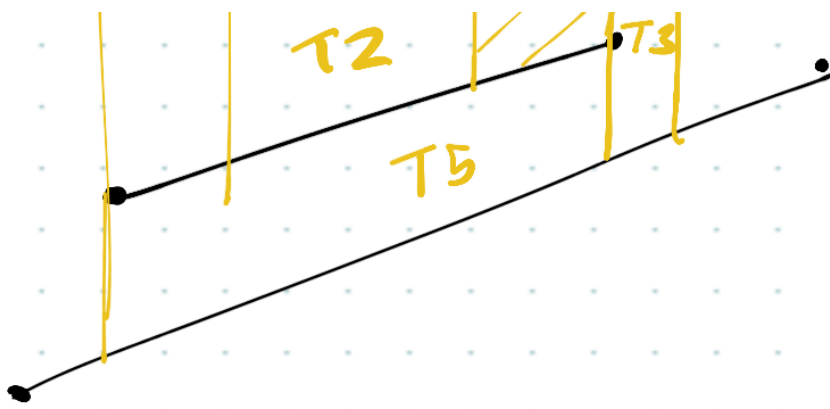
4 trapeze
10 vârfuri

Exc Dată sî exp de hărți tra-
pezoidale în care se realizează /
nu se realizează numărul maxim
de vf / trapeze.

Exp Adiacența trapezelor



Teste adiacență
cu T_1, T_2, T_3
NU este adiac. cu
 T_4, T_5



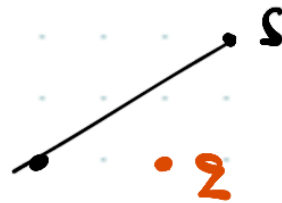
Căutarea în graficul asociat unei hărți
trapezoidale

$x\text{-nod}(p)$

$y\text{-nod}(s)$



z

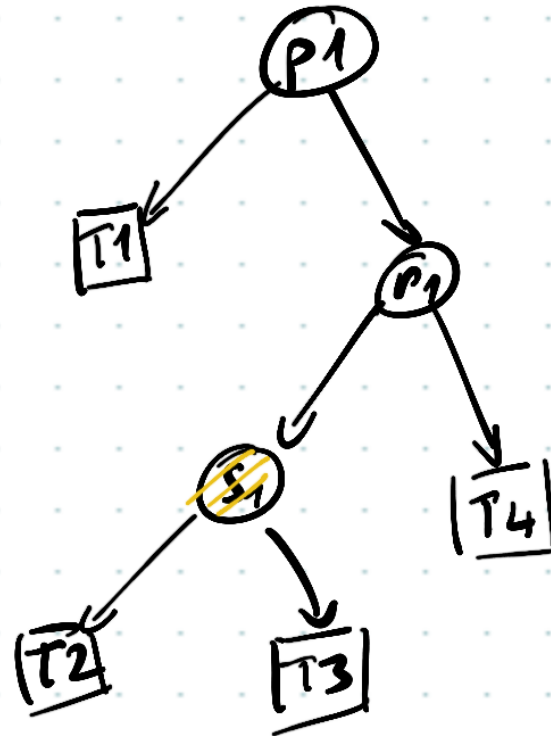
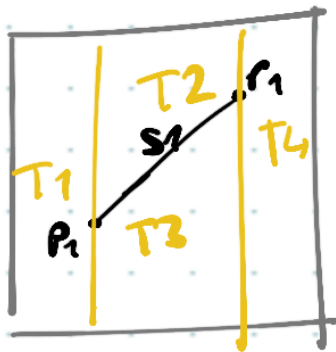


z

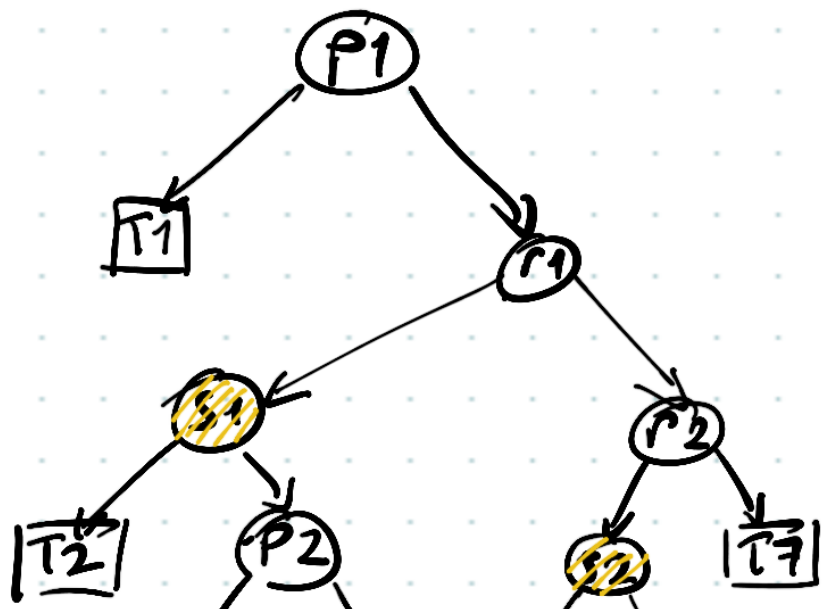
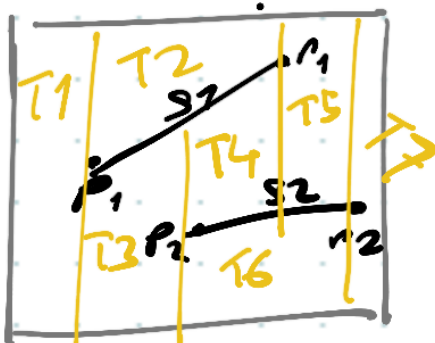
z este la st/dn
dreptei verticale care
trece prin p

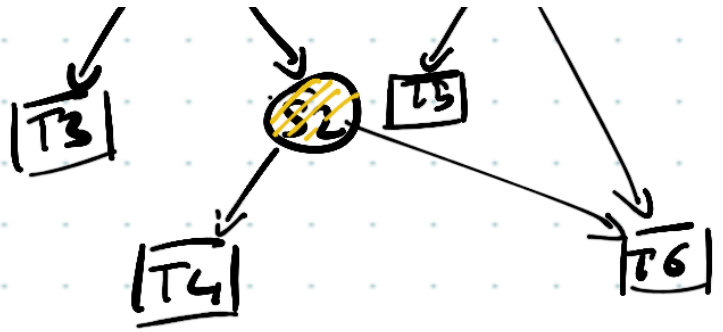
z este deasupra/sub
segment s

Exp Structura de căutare asoc.

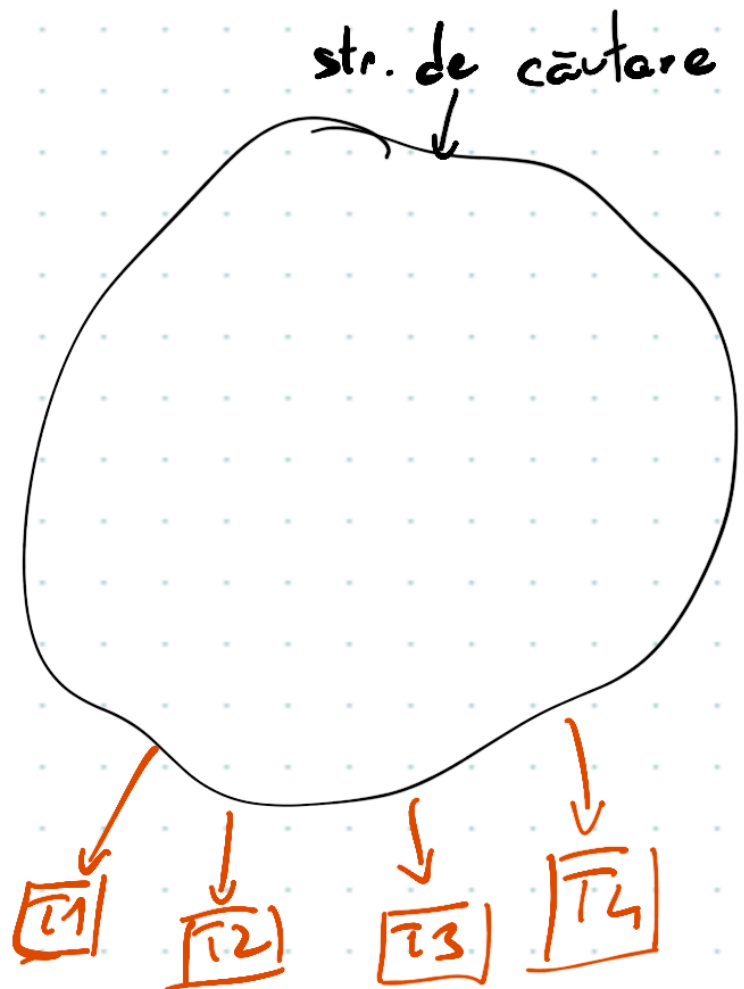
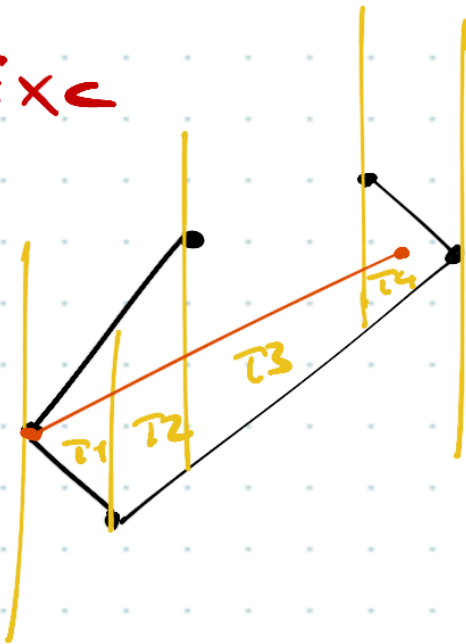


Exp Str. de căutare asoc.





Exc



Cum se actualiz. str. de căutare?