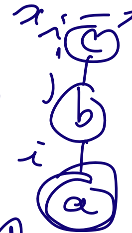
Reprise du cas $N=3$ $n=2$ $\vec{v}=(4,2,1)$

$$\begin{cases} x_1-x_2=2 & x_1-x_3=3 & x_2-x_3=1 \\ x_1-x_2=0 & x_1-x_3=0 & x_2-x_3=0 \end{cases}$$

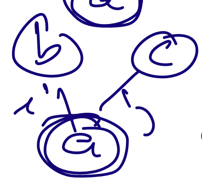
$S^-_{2,1}=S_{1,2}=\{0,2\}$ $S^-_{3,1}=S_{1,3}=\{0,3\}$ $S^-_{3,2}=S_{2,3}=\{0,1\}$

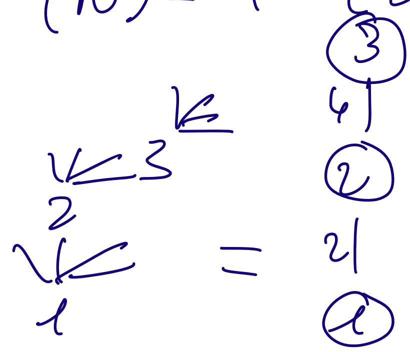
$S^-_{1,2}=S^-_{1,3}=S^-_{2,3}=\{0\}$

$m=\max\{|s| \mid \exists i,j \text{ tq } x_i-x_j=s\}$

$T^{(m)}(N)=T^{(4)}(3)=\{$  avec $i,j\in[\![1;4]\!]$

$\{a,b,c\}=\{1,2,3\}$

 avec $1\le i<j\le 4\}$



132 arbres

$\mathcal{T}_S=\{T\in T^{(m)}(N) \text{ tq } \forall u,v \text{ tq } \text{cadet}(u)=v$

alors $\text{lsib}(v)\in S^-_{u,v}\}$

nb de frères gauches

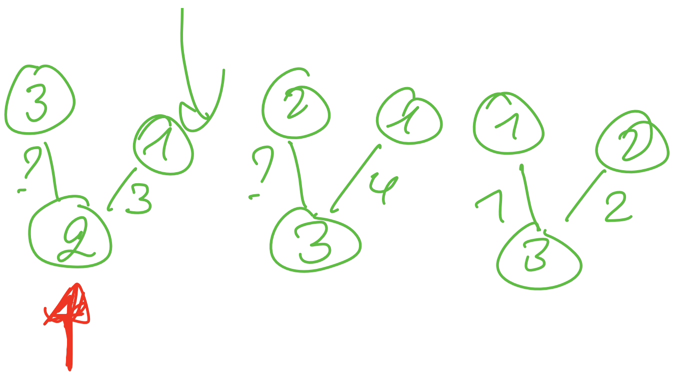
Exemple : 

$j-1\in S^-_{a,c}$ $a>c$

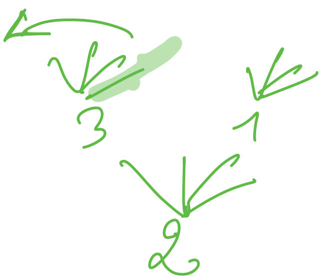
$j=2$ si $a=3, c=2$

3 si $a=2, c=1$

4 si $a=3, c=1$



6 arbres

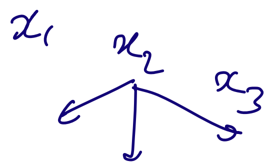


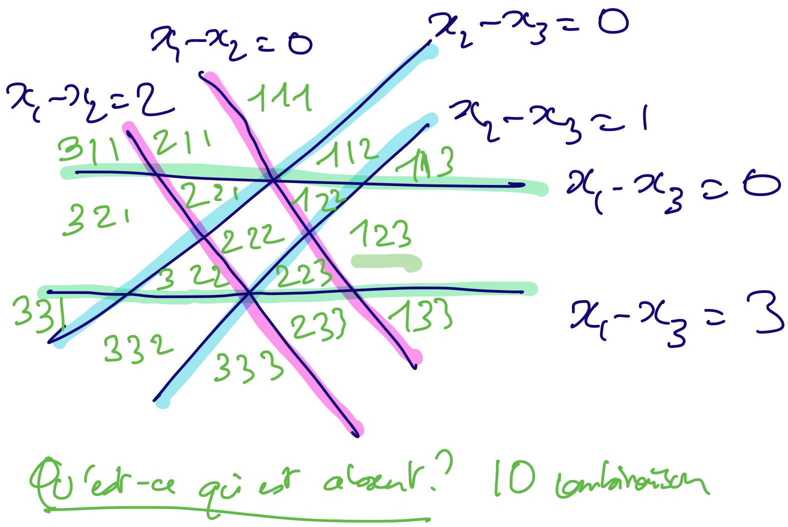
$x_i - x_j < s$ si $i <_T$ (s+1)th j

$\alpha < x_1 - x_3 < 3$ $2 - +$

$2 < x_1 - x_2$ $1 + +$

$x_2 - x_3 < 0$ $3 \sim \sim$





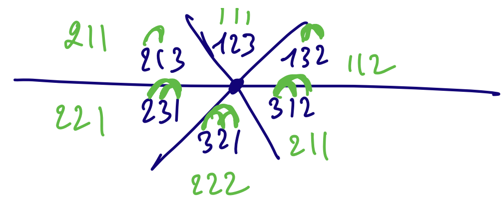
Qu'est-ce qui est absent? 10 combinaisons

Symétrie 4 –

121, 131, 212, 313, 232, 323, 132, 213, 231, 312

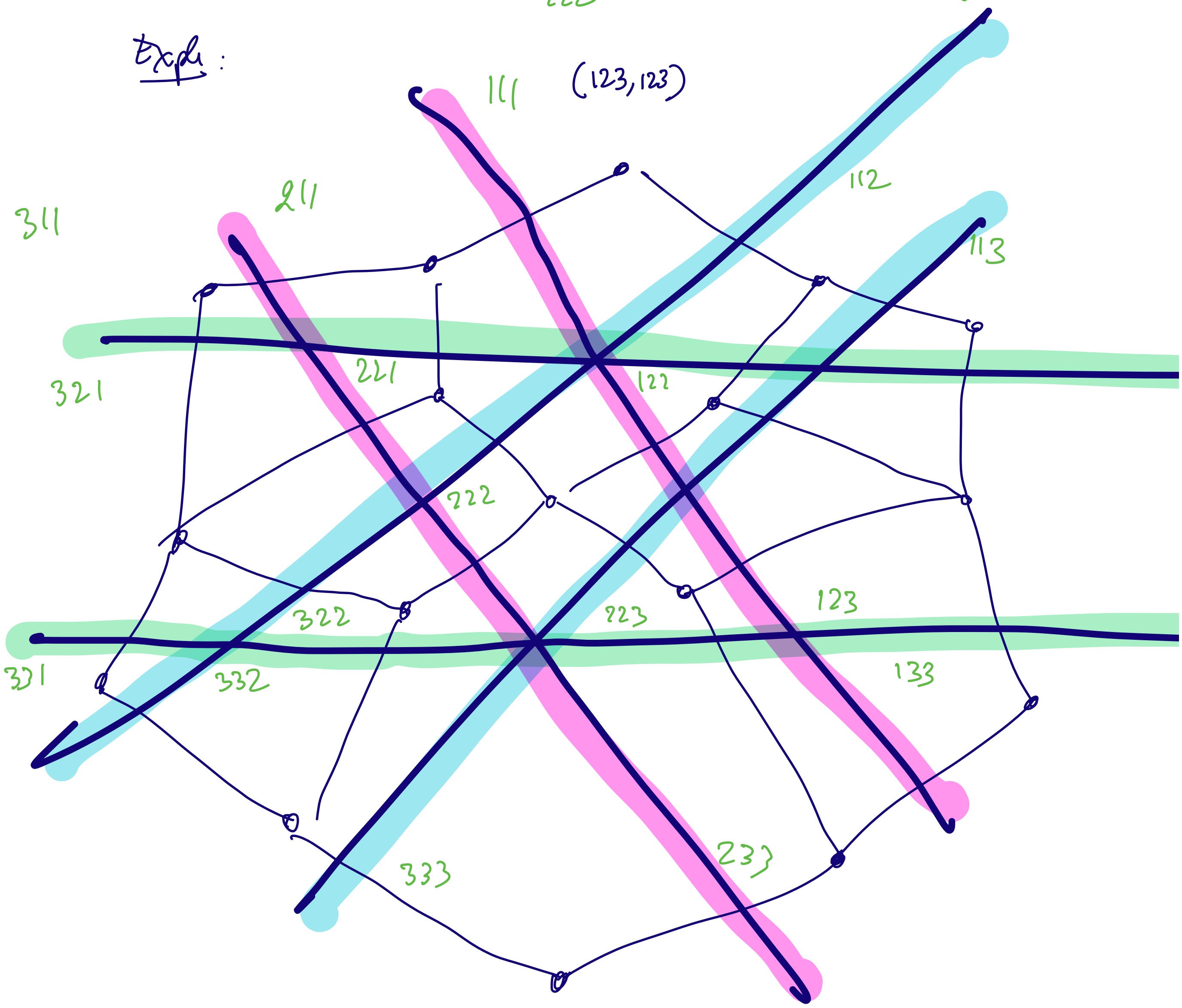
323, 313, 232, 131, 212, 121, 312, 231, 213, 132

Si position générique

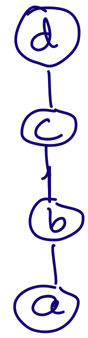


inversion
⇕
là où le code augmente ?

Expl :



Quelle SCS contribue ?



Peut-on avoir

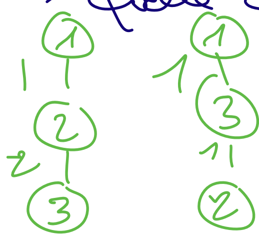
i, j, k tq $i \notin S_{a,b}$ $j \notin S_{b,c}$ $k \notin S_{c,d}$

$i+j \notin S_{a,c}$ $j+k \notin S_{b,d}$

$i+j+k \in S_{a,d}$ Oui

↳ Quelle contribution ?

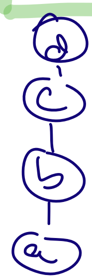
Rappel :



Vérifient $i \notin S_{a,b}$ $j \notin S_{b,c}$

$i+j \in S_{a,c}$

$S_{a,b}$ $a<b = \{0\}$ $S_{2,1} = \{0, 2\}$ $S_{3,1} = \{0, 3\}$ $S_{3,2} = \{0, 1\}$



(a) (b) (c) (d) } 1

(ab) (c) (d)
(a) (b) (cd)
(a) (bc) (d) } −3

(ab) (cd)
(abc) (d)
(a) (bcd) } +3

ne contribue pas (I)

$i \notin S_{a,b}$ $j \notin S_{b,c}$ $k \notin S_{c,d}$

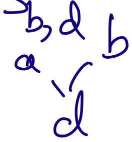
$i+j \notin S_{a,c}$ $j+k \notin S_{b,d}$

$i+j+k \in S_{a,d}$

$i \notin S_{a,b}$ $j \notin S_{b,c}$ $k \notin S_{c,d}$

$i+j \notin S_{a,c}$ $j+k \in S_{b,d}$

$i+j+k \in S_{a,d}$



(a) (b) (c) (d) } 1

(ab) (c) (d)
(a) (b) (cd) } −3

→ 0

(a)(bc)(d) /

(ab)(cd)

(abc)(d)) +2

(a)(b)(c)(d)) 1

(ab)(c)(d)

(a)(b)(cd)

(a)(bc)(d)) −3

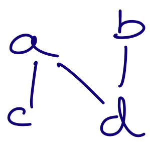
(ab)(cd)) +1

−1

$i \notin S_{a,b}$ $\quad j \notin S_{b,c}$ $\quad k \notin S_{c,d}$

$i+j \in S_{a,c}$ $\quad j+k \in S_{b,d}$

$i+j+k \in S_{a,d}$

$\Longrightarrow$ 

Si $a>b>c>d$;

$i = v_b - v_c \quad j = v_a - v_b \quad i+j = v_a - v_c \in S_{a,c}$

$j+k = v_b - v_d$ impossible $\quad \vec{v} = (8,4,2,1)$

$S_{4,3} = \{1,0\} \quad S_{3,2} = \{0,2\}$

(4)—(3)—(2)—(1) $\quad S_{4,2} = \{0,3\} \quad S_{3,1} = \{0,6\}$

$i+j = 3 \quad j+k = 6 \quad S_{4,1} = \{0,7\} \quad S_{2,1} = \{0,4\}$

$i+j+k = 7$

$\rightarrow j = 2 \in S_{3,2}$

0 1

(4) $\overset{i}{—}$ (2) $\overset{j}{—}$ (3) $\overset{k}{—}$ (1)

- $a>c>b>d$ no

$i \neq 3 \quad j \neq 0 \quad i+j = 1$

$\hookrightarrow j = 1, i = 0$ hum...

$k \neq 6$, $\quad j+k = 4$ ($k=3$) $\quad i+j+k = 7$

- $b^{4} > a^{3} > c^{2} > d^{1}$ ③—④—②—①

$i \neq 0 \quad j \neq 0,3 \quad k \neq 0,4$

$i+j=2 \quad j+k=7 \quad i+j+k=6$ ✗

- $b > a > d > c$ ③—④—①—②

$i \neq 0 \quad j \neq 0,7 \quad k \neq 0$

$i+j=6 \quad j+k=3 \quad i+j+k=2$ ✗

- $a > b > d > c$ ④—③—①—②

$i \neq 0,1 \quad j \neq 0,6 \quad k \neq 0$

$i+j=7 \quad j+k=2 \quad i+j+k=3$ ✗

Ce cas n'arrive jamais

$S_{4,3}=\{1,0\} \quad S_{3,2}=\{0,2\}$

$S_{4,2}=\{0,3\} \quad S_{3,1}=\{0,6\}$

$S_{4,1}=\{0,7\} \quad S_{2,1}=\{0,4\}$

$i \notin S_{a,b} \quad j \notin S_{b,c} \quad k \notin S_{c,d}$

$i+j \notin S_{a,c} \quad j+k \notin S_{b,d}$

$i+j+k \in S_{a,d}$

$a > d$

Exple : $④ \overset{1}{—} ① \overset{1}{—} ③ \overset{1}{—} ②$

À priori 24 étiquetages

mais (a,d) avec $a<d$ ✗ (12)

$(4,3)$ ✗

$(3,2)$ ✗ 1

4 — 2 — 3 — 1   7
≠3   ≠6

4 — 3 — 2 — 1   7

3 — 4 — 2 — 1   6

3 — 2 — 4 — 1   6 $\longrightarrow (i, j, k) \longrightarrow (1,1,4)\ (1,4,1)\ (4,1,1)\ (1,2,3)$
≠2   ≠7 $(1,3,2)\ (3,1,2)\ (3,2,1)$

2 — 4 — 3 — 1   4 $\longrightarrow (i, j, k) = (1, 2, 1)$
≠1   ≠6

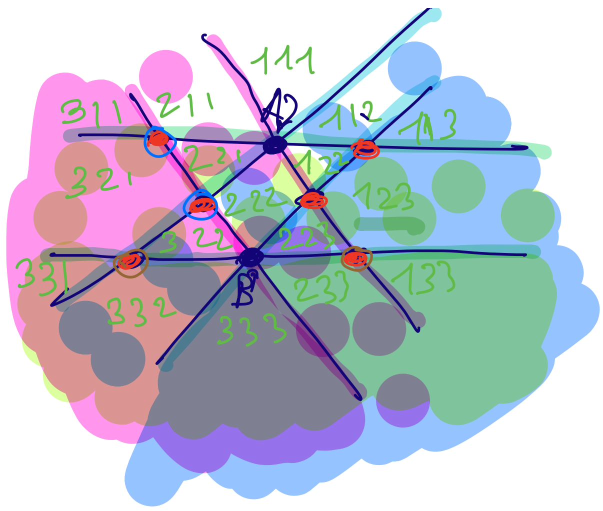
2 — 3 — 4 — 1   4 $\longrightarrow (i, j, k) = (1,1,2), (1,2,1), (2,1,1)$
≠7

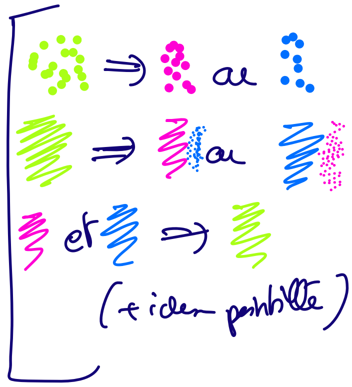
4 —1— 1 —1— 3 —1— 2   3 ✓

✗ 4 — ✗ — 3 —1— 1 —1— 2   3

- Beaucoup de cas en fait vs coder pour comprendre la logique ?

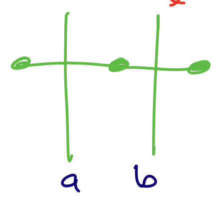

Sorte de code ?
333
233
332
133
331
3
223
222
332
123
321
221
122
113
311
211
112
111



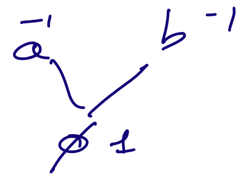


Réf Wachs : Nb régions $= \sum_x |\mu(0,x)|$

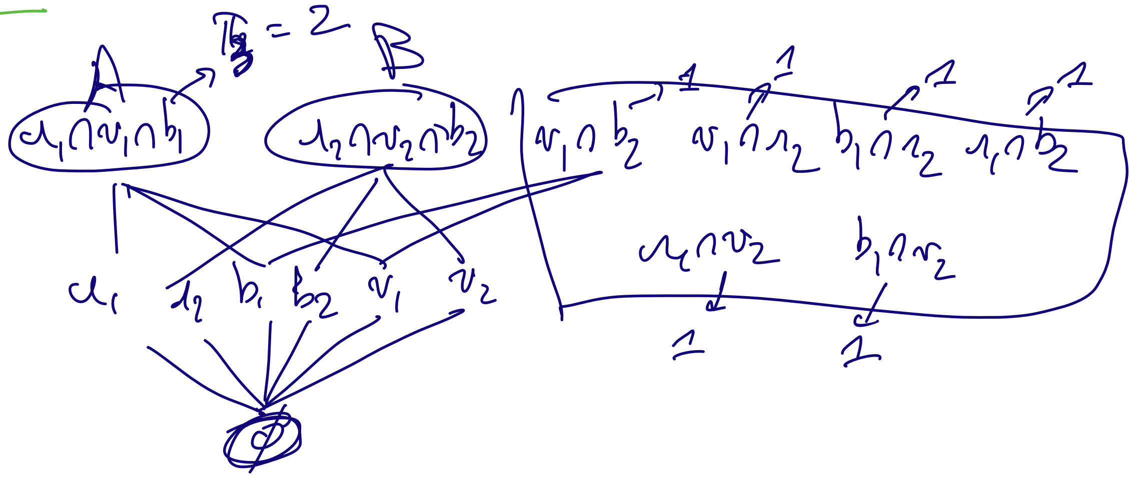
Expl : $n=2$



$3 = 1+|-1|+|-1|$



$n=3$



$2\times \underbrace{\Pi_3}_{=2} + 6\times\Pi_2 + 6\times\Pi_1 + 1 = 17$

$\sum (n-1)! \times \bigcirc \to$ qu'est-ce ?

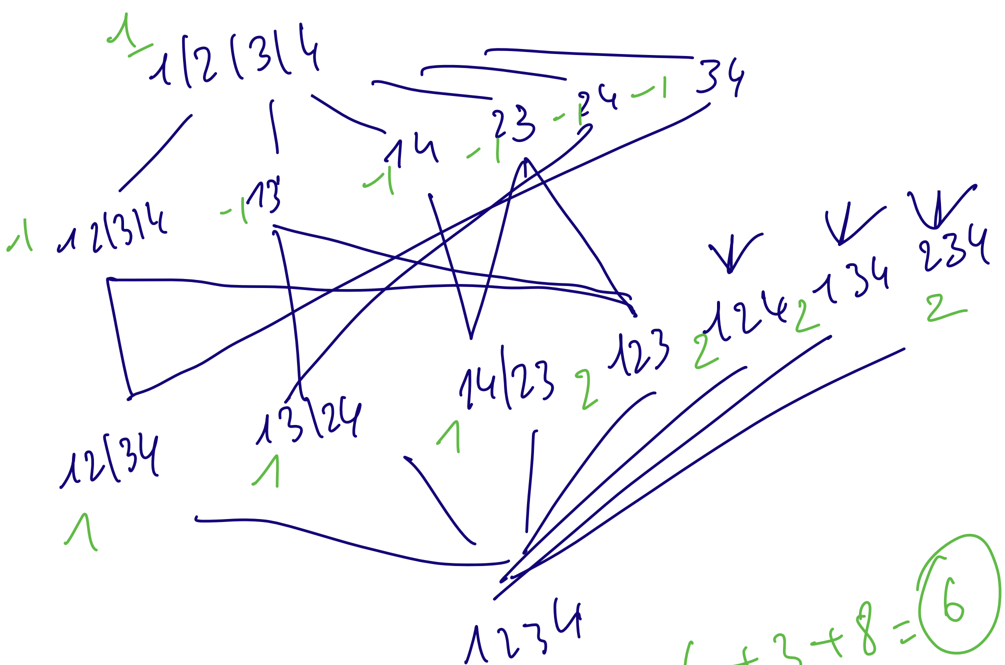
Comprendre le cas $n=4$ $\rightsquigarrow$ 149 A213507

$$\exp\left(\sum C(n)\times(n-1)!\,\frac{x^n}{n!}\right)$$

$\Pi_4 = 6$ $\overbrace{2\times \Pi_4}^{12} + 1 +$ intersect° supplémentaires

dûe aux 2 arrangements $\emptyset$

$\rightsquigarrow 2\times(6+11+6)+1$



$1-6+3+8=6$

x_1-x_2 x_1-x_3 x_1-x_4 x_2-x_3 x_2-x_4 x_3-x_4

$n=4$

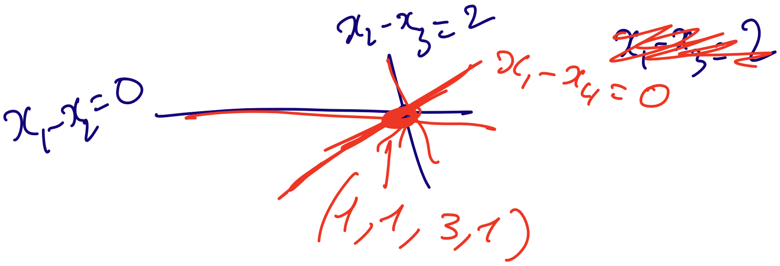
6×2 hyperplans

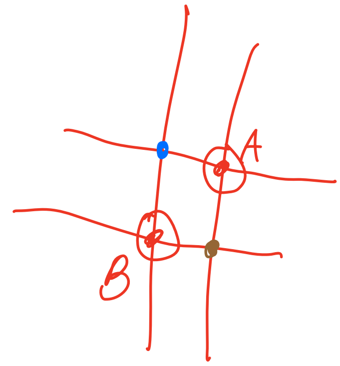
30 intersect°

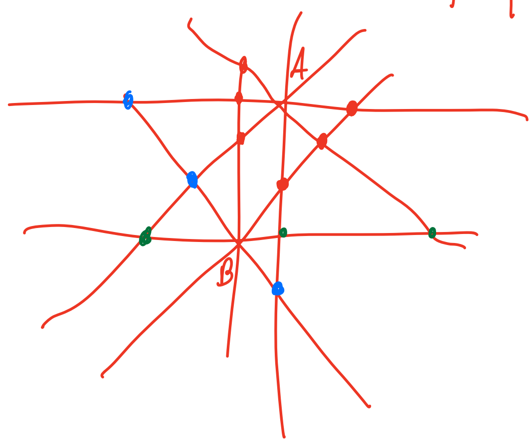
102

$2\times$ ___ $+$ ___

$v=(8,4,2,1)$


x_2 - x_3 = 2
x_1 - x_2 = 0
x_1 - x_4 = 0
~~x_1 - x_3 = 2~~
(1, 1, 3, 1)


A
B


A
B