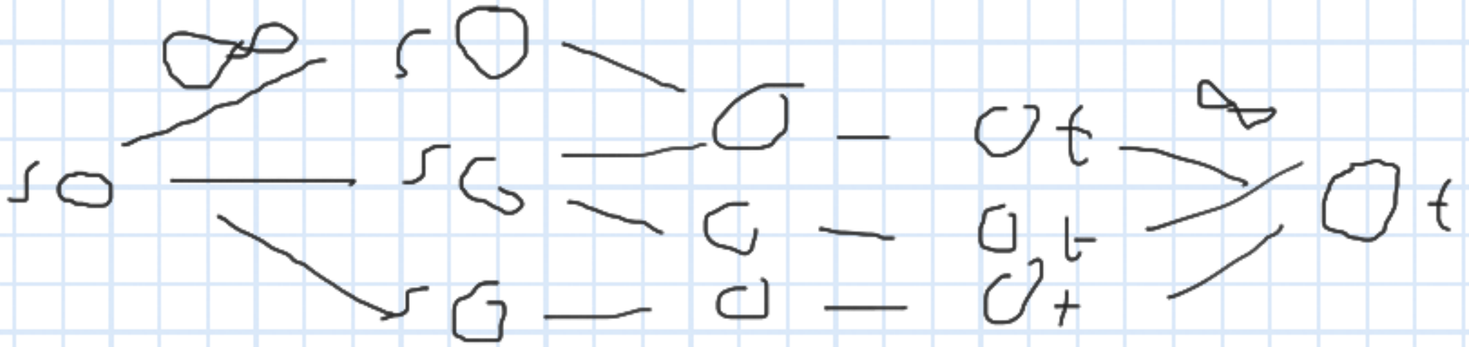
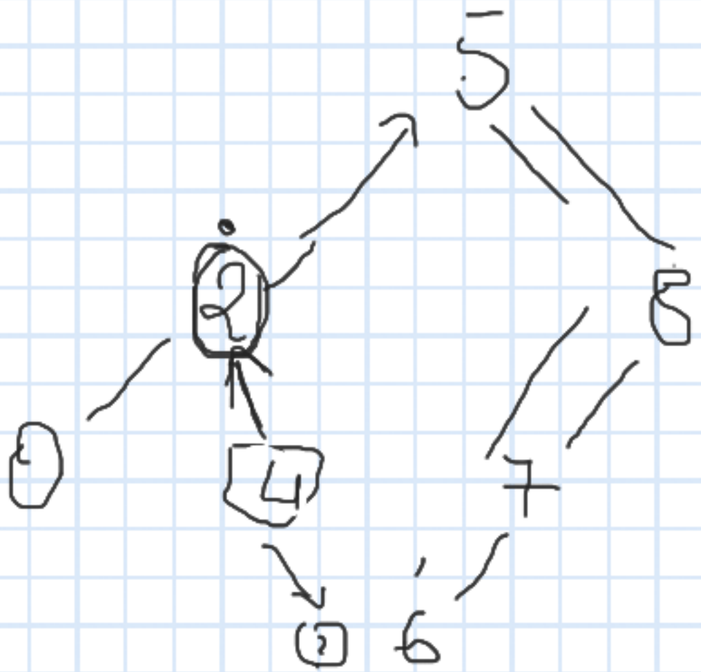
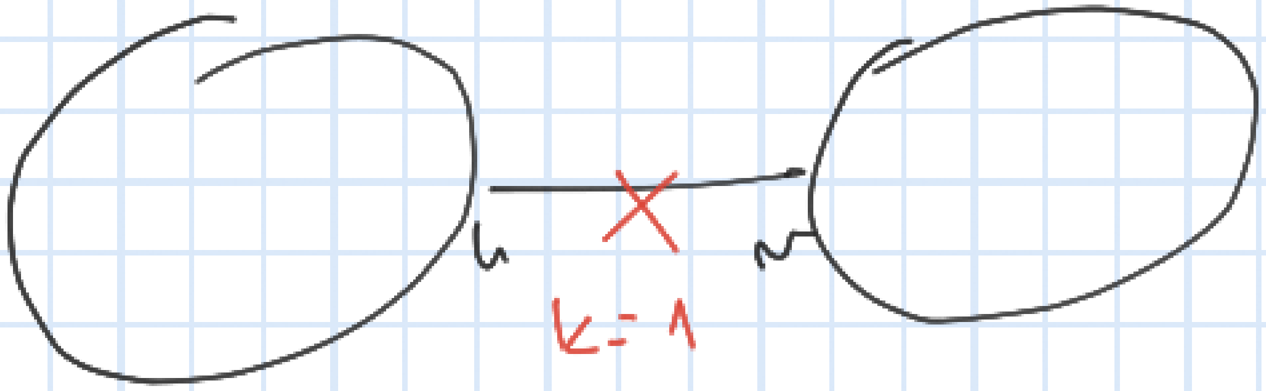
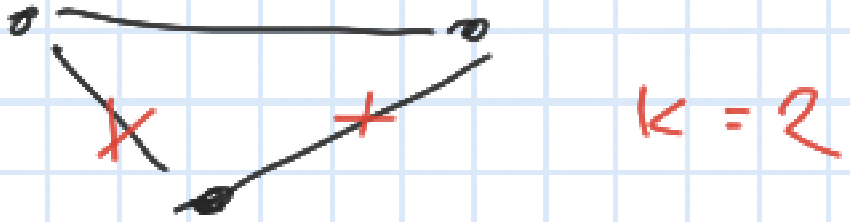



5
2
6
4
7
1
6

Z1. Max flow w grafie nieskierowanym. Algorytm

Z2. Spójność krawędziowa $G=(V,E)$ k - liczba krawędzi - Alg.





Z3. Formuły logiczne

$$(x \vee y \vee z) \wedge (\bar{z} \vee w) \wedge (\bar{z} \vee w) \wedge (\bar{x} \vee \bar{w}) \wedge (\bar{w})$$

v Alg.

Czy jest spełnialna?

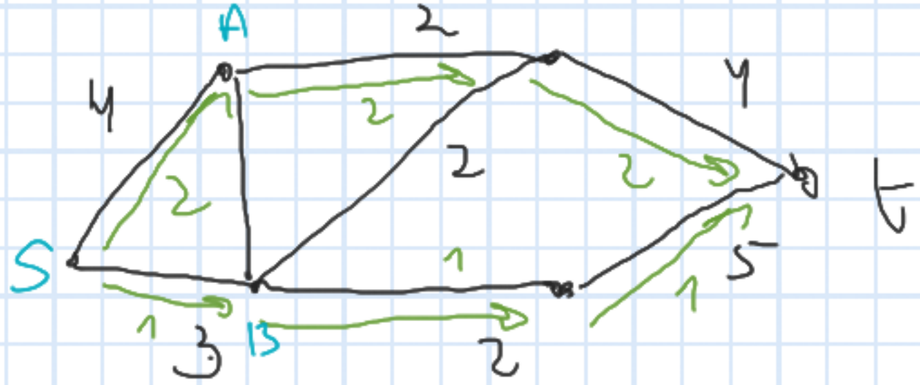
$(x \vee y) \wedge (\bar{x} \vee z)$

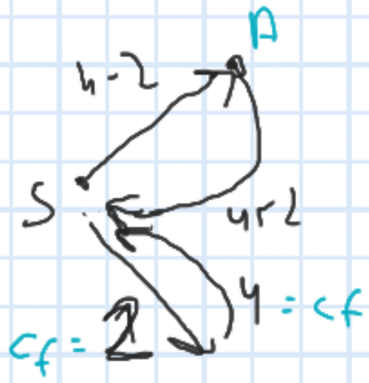
$(x \vee \bar{x} \vee \ldots)$

$(x \vee z \vee w) \vee (x \vee \bar{x} \vee \ldots)$

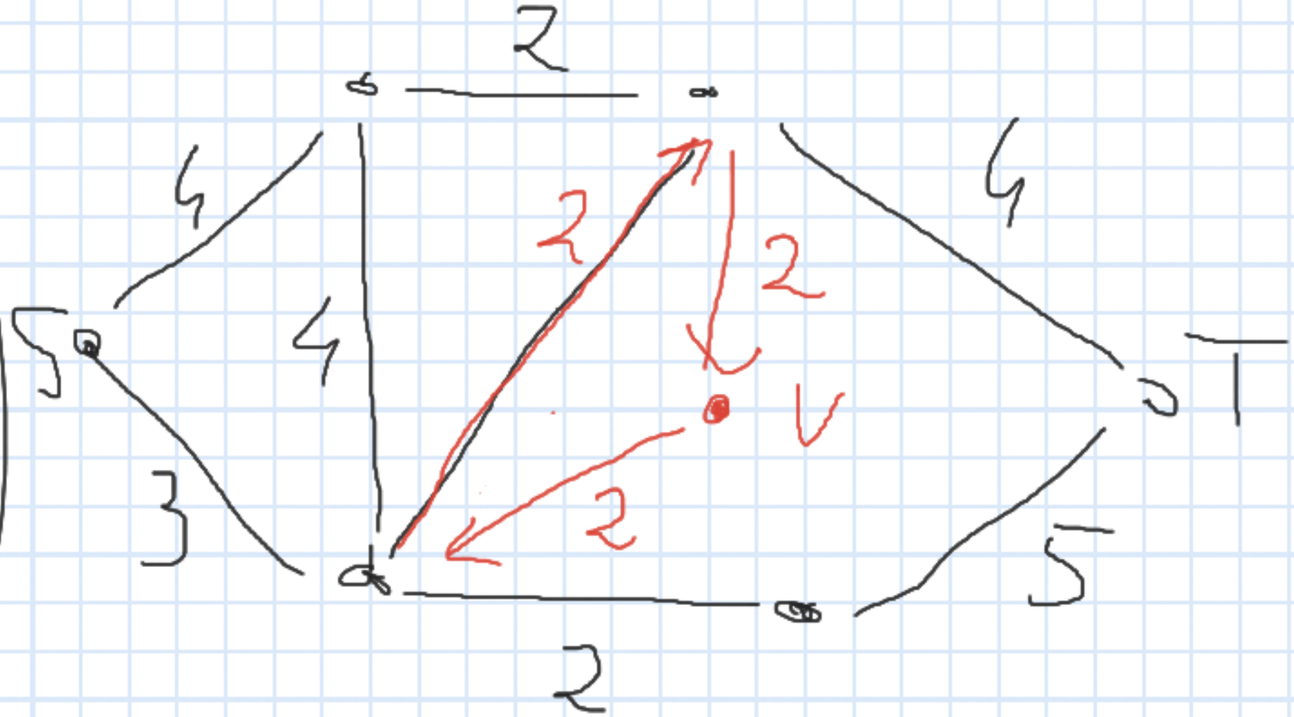
$(x \vee y) \wedge (\bar{x}) \wedge (\bar{y})$ → 0 0

$(x \vee z) \wedge (\bar{x}) \wedge (\bar{z} \vee y) \wedge (\bar{y})$





c
f
cf



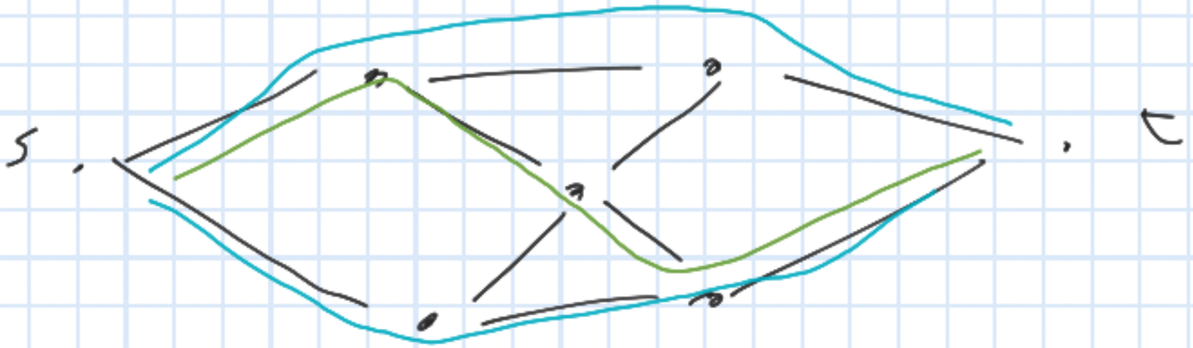
Z4) Skojarzenie w drzewie — Alg

a) INPUT: tree — OUTPUT: skojarzenie o maksymalnej liczności

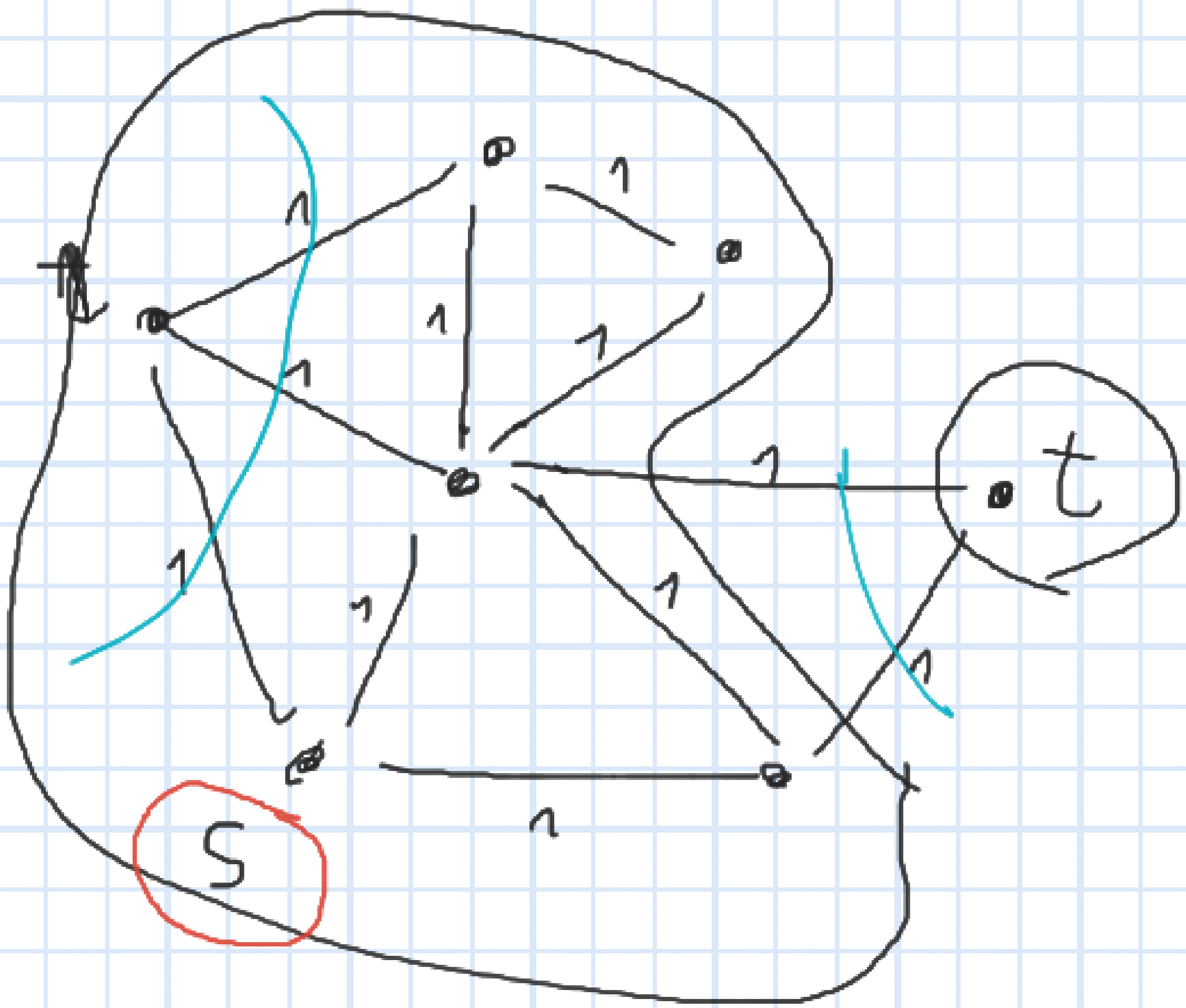
b) — II — z wagami krawędzi ≥ 0 — OUTPUT: skojarzenie o maksymalnej sumie wag

Z5) Ścieżki rozłączne. $G = (V, E)$, s, t — Alg

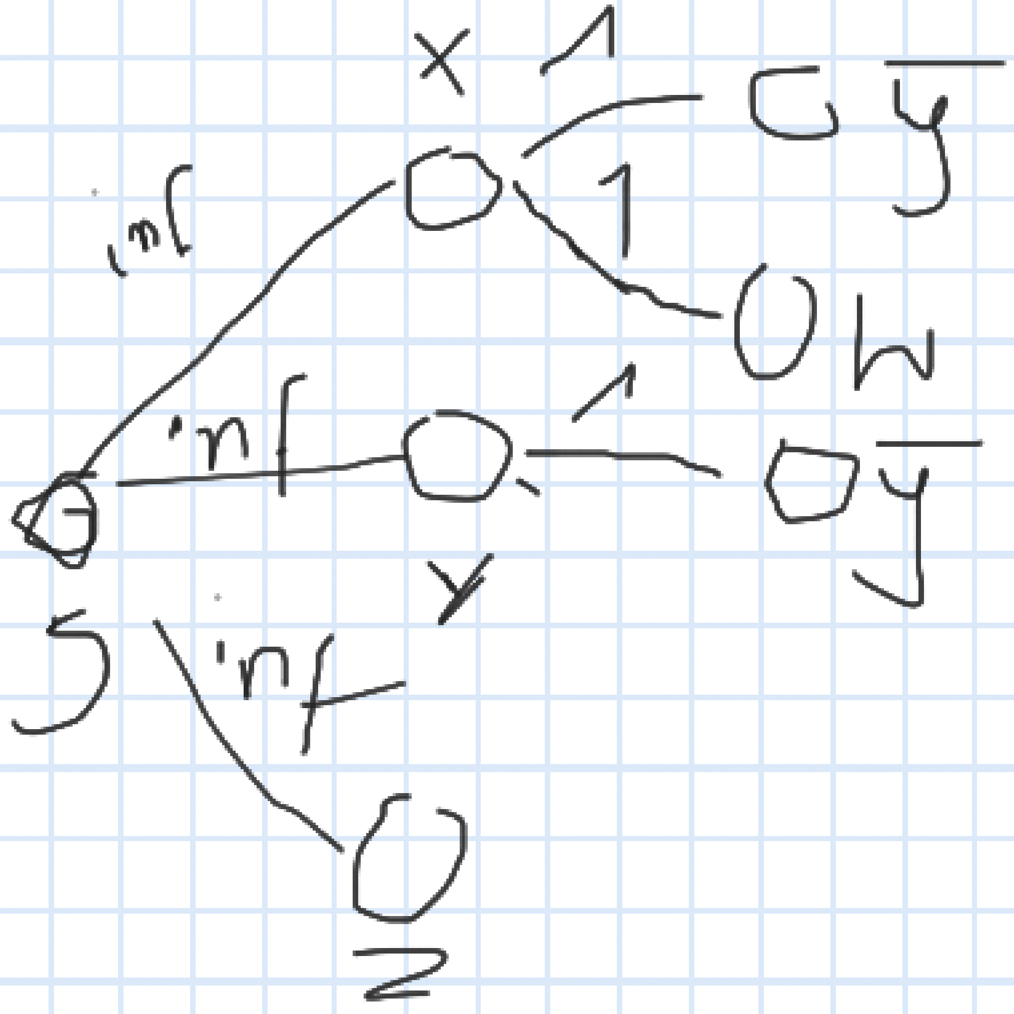
wierzchołkowo

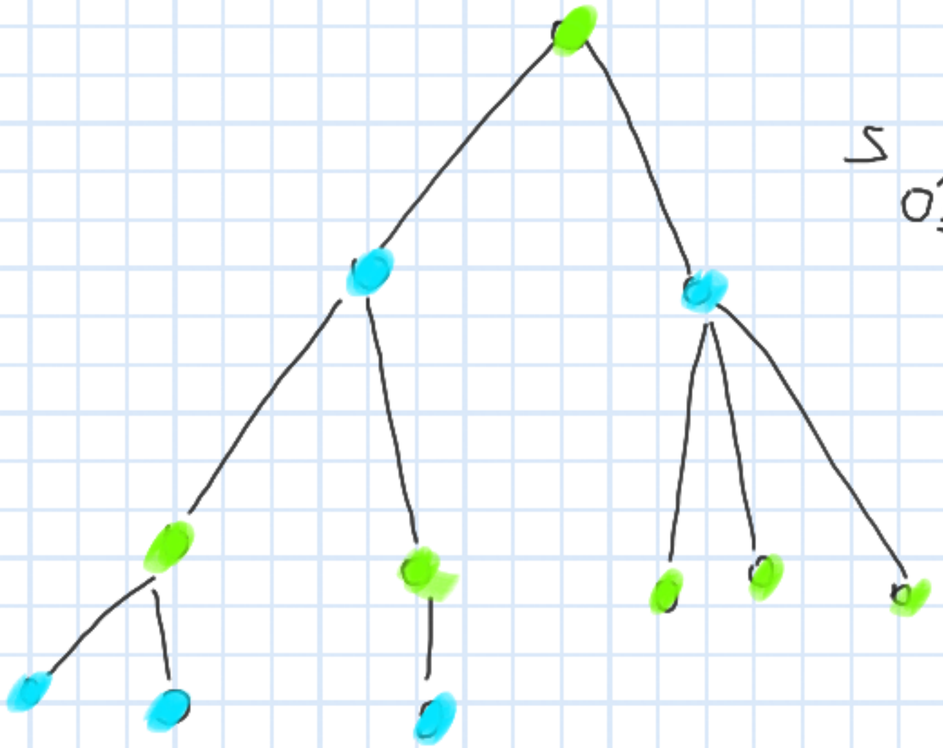


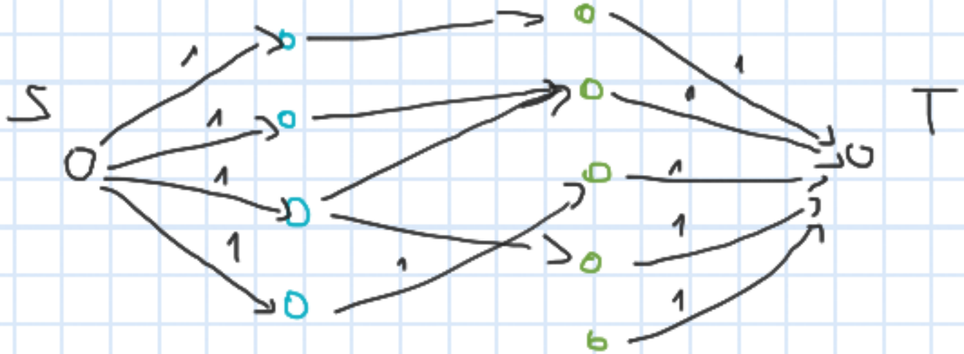
22

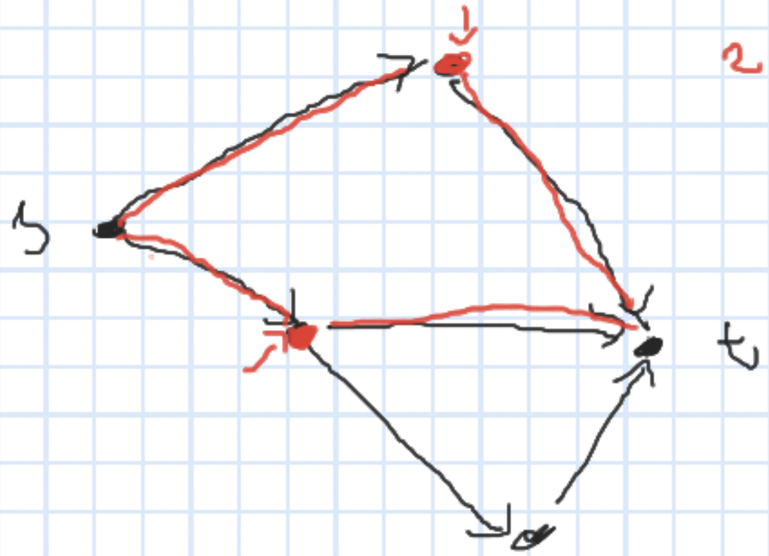


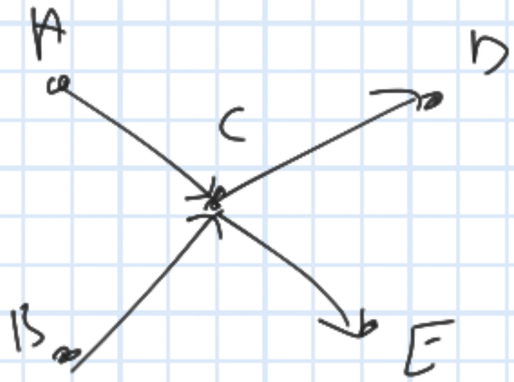
23. $(x \vee y \vee z) \wedge (\bar{y} \vee w) \wedge (\bar{z} \vee w) \wedge (\bar{x} \vee \bar{w}) \wedge (\bar{w})$

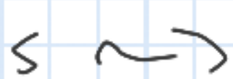


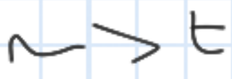


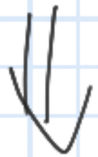

S
T

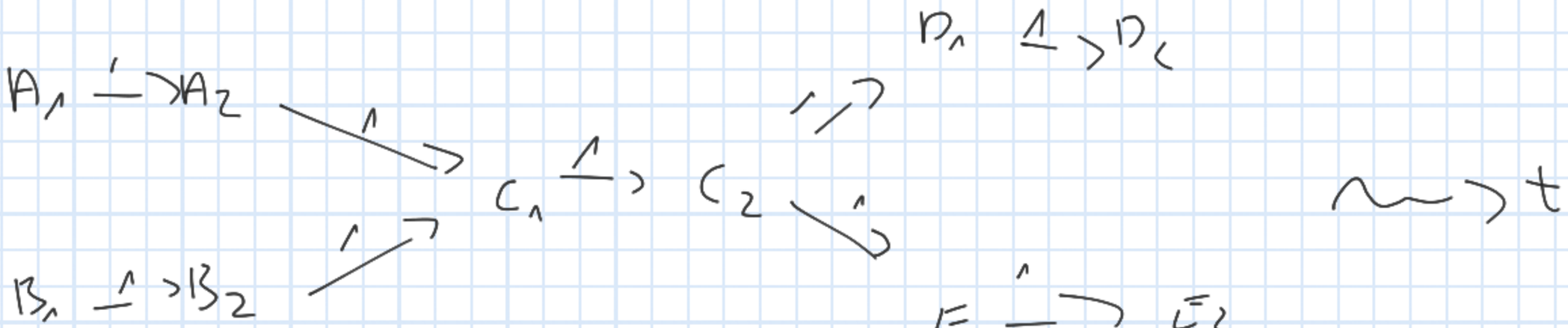

1
2
s
t

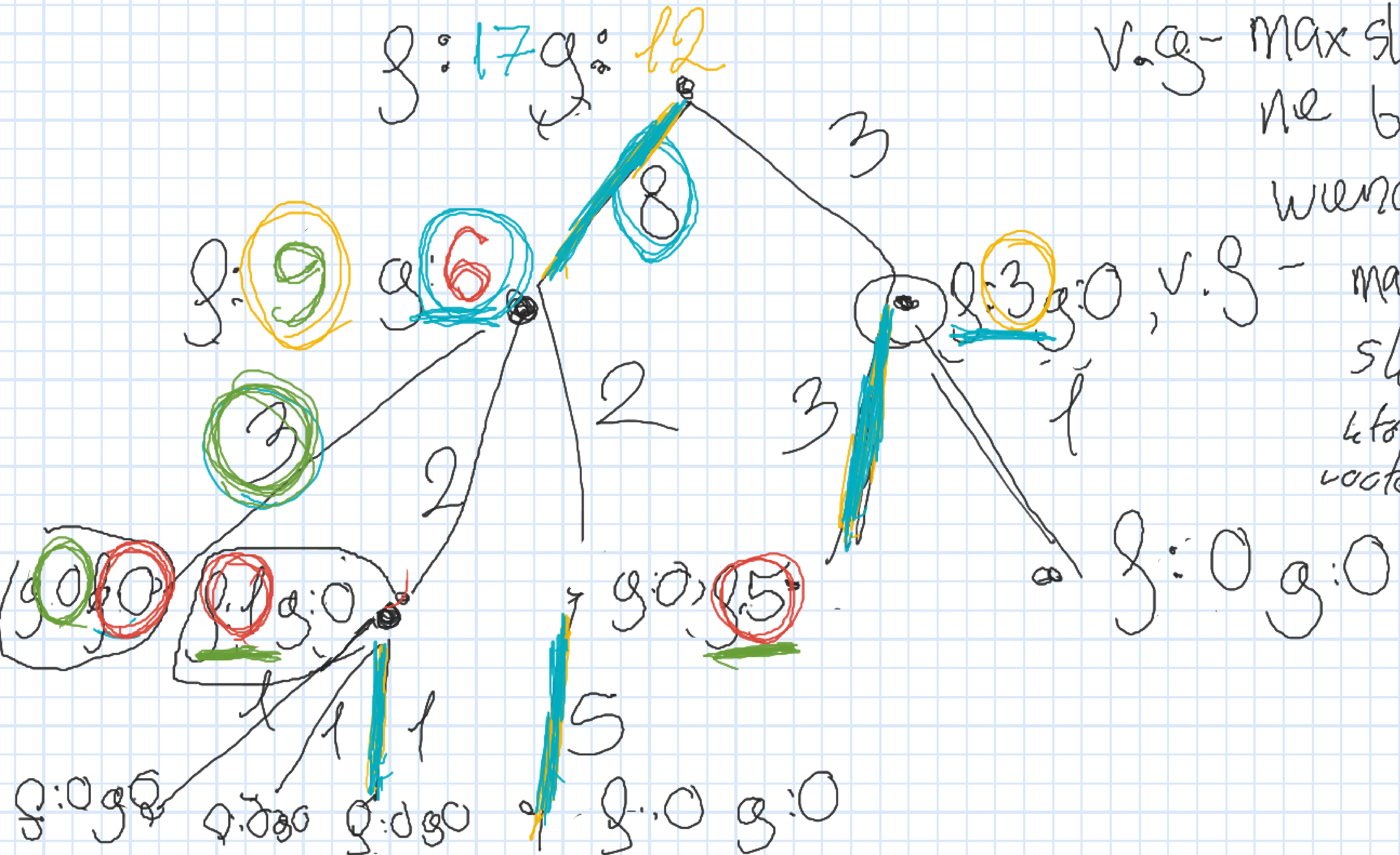

A
D
C
B
E








A1
A2
B1
B2
C1
C2
D1
D2
E1
E2



v.g - max skojarzenie nie biorące wierzch v

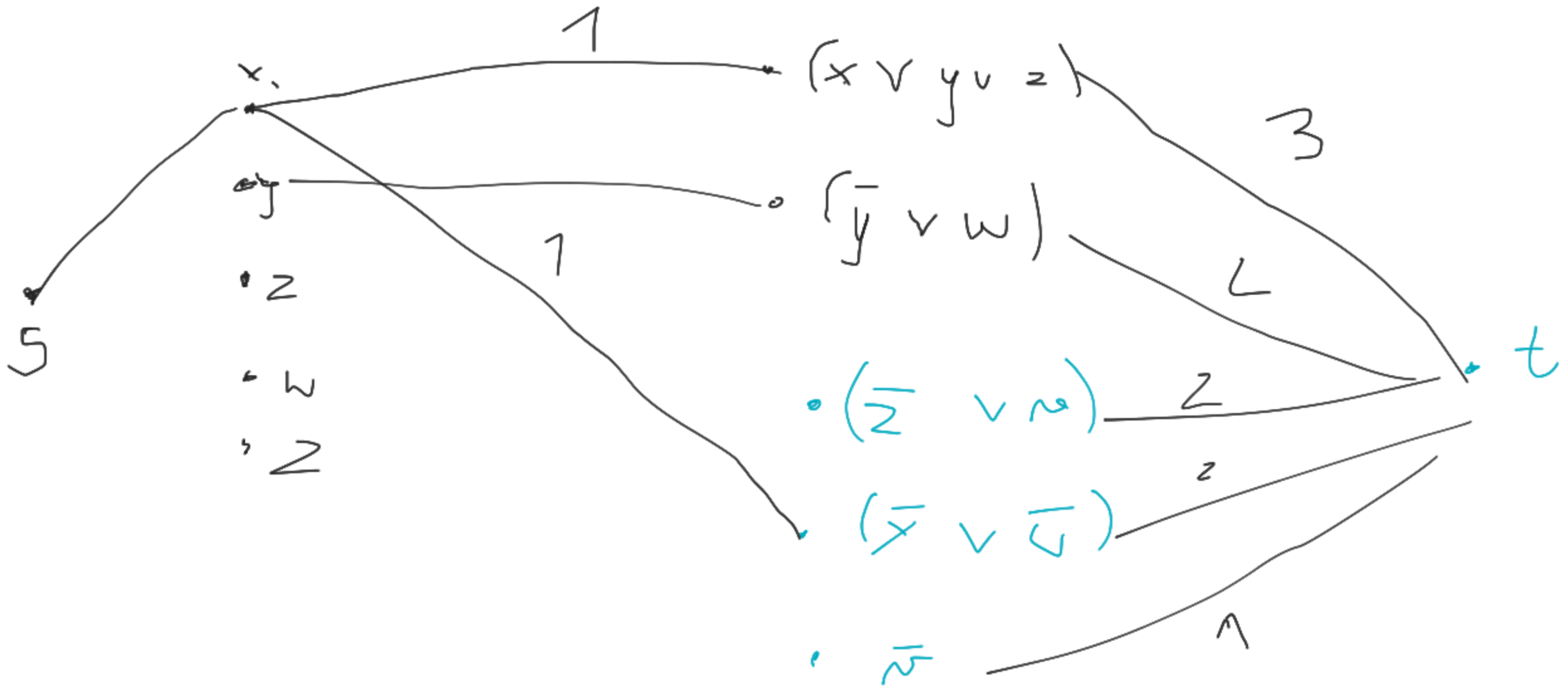
v.f - max skojarzenie którego wierzchołkiem jest v

$$v.g = \begin{cases} 0, & v\text{ - liść} \\ \sum v.f, & u\text{ - dziecko } v \end{cases}$$

(v.g)

$$v.f = \max\Big(v.g,\ \max_{\text{po każdym dziecku } u}\big(\{u,v\} + u.g + \sum_{\substack{\text{dzieci } u \\ w}} w.f\big)\Big)$$

(v.f)


s
x
y
z
w
z
1
1
(x ∨ y ∨ z)
(ȳ ∨ w)
(z̄ ∨ w)
(x̄ ∨ z̄)
w̄
3
2
2
2
1
t

BST

1. T - drzewo BST z node.size - rozmiar podrzewa.

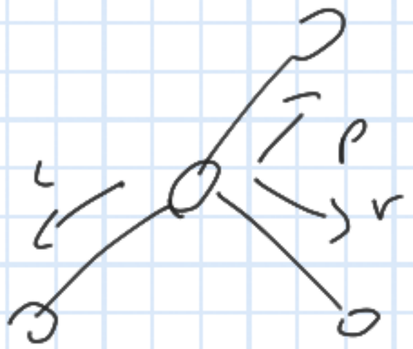
IMPL

a) znalezienie i-tego elementu

b) wyznaczenie który z kolei jest dana wartość

IMPL

2.

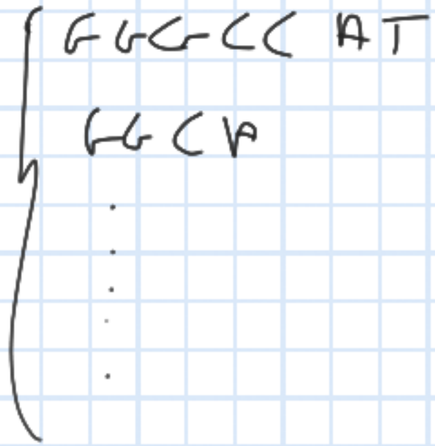


n.p
n.l
n.r
n.v

ALG

Szukany: suma wartości

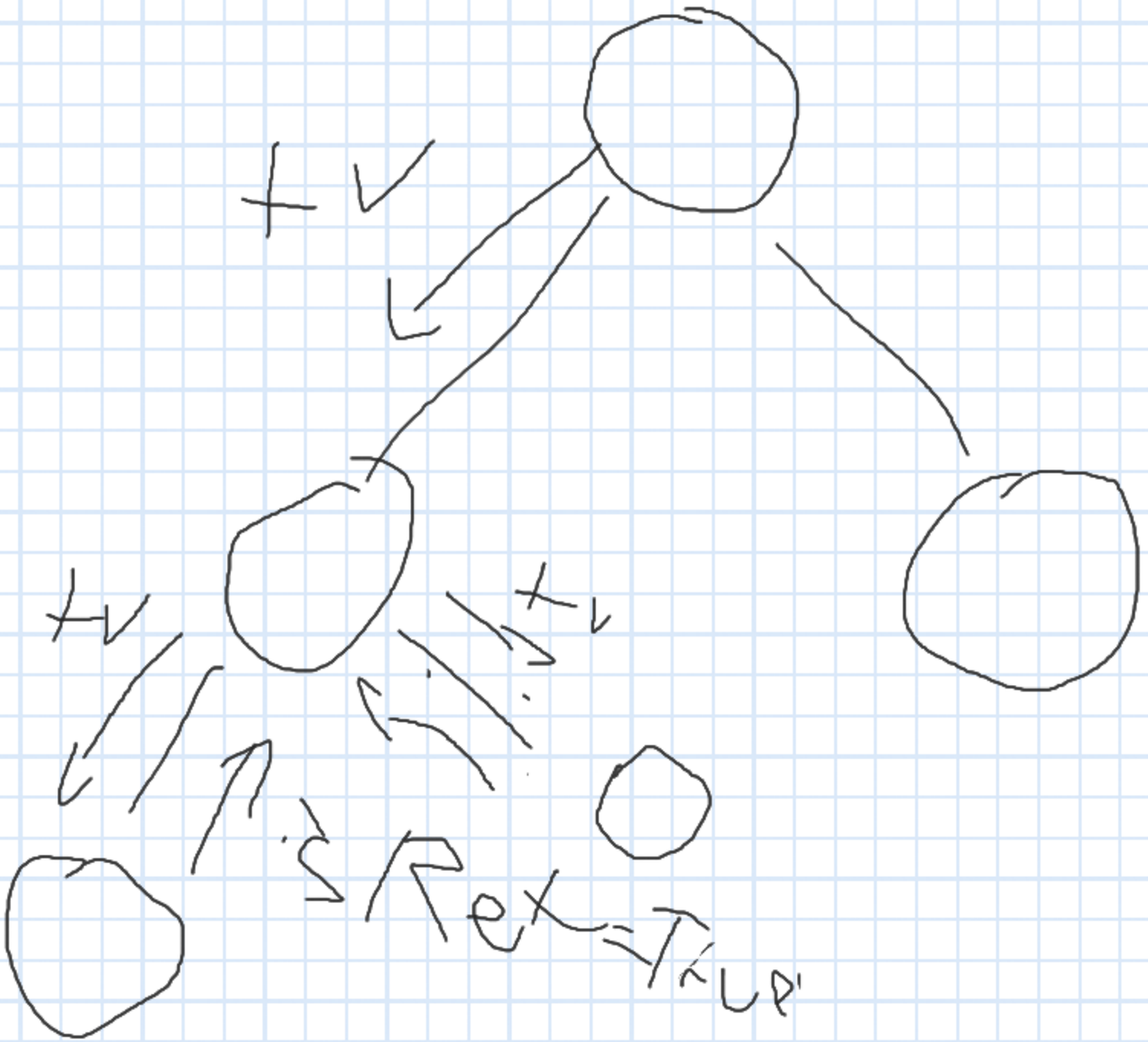
23| DNA GATC



Zadanie: Czy sekwencje są parami różne?

V = 0

Checked -



$O(n^2 \cdot MAXLEN)$

n { GATC
GACT
. — — —
. — — — .

GATC
G-ACT
. . .

n

$h = max(len)$

$O(n \cdot h)$

TRIE