

Teme

AVL → mai multe accesări decât B

1.

Care din urmatoarele argumente este esențial pentru a alege un arbore B în loc de un arbore AVL pentru indexarea unor baze de date.

Select one:

- a. datele se preiau din memoria externă în blocuri
- b. înregistrările în bazele de date sunt deja sortate după o cheie primară
- c. bazele de date au un număr mare de înregistrări
- d. arborii B necesită mai puțină memorie decât arborii AVL

[Clear my choice](#)

multă

2.

Un arbore B crește în înaltime doar atunci când:

pagina nouă se face în sus, la scindare

Select one:

- a. se adaugă un nou nod într-o pagină terminală
- b. în niciuna din celelalte variante
- c. are loc o scindare a paginii radacina
- d. se adaugă o nouă pagină terminală

[Clear my choice](#)

3.

Un arbore B își reduce dimensiunea doar dacă:

Select one:

- a. se stergă un nod dintr-o pagină terminală
- b. se face o echilibrare
- c. radacina este redusa la dimensiunea 0

[Clear my choice](#)

4.

→ 1

Care din urmatoarele argumente este esențial pentru a alege un arbore B în loc de un arbore AVL pentru indexarea unor baze de date.

Select one:

- a. datele se preiau din memoria externă în blocuri
- b. înregistrările în bazele de date sunt deja sortate după o cheie primară
- c. bazele de date au un număr mare de înregistrări
- d. arborii B necesită mai puțină memorie decât arborii AVL

[Clear my choice](#)

5.

Not yet answered  
Marked out of 2.00  
Flag question

Care din urmatoarele afirmații este edevarata?

Select one:

- a. Cu cat este mai mare ordinul N al unui arbore B, cu atât numarul scindarilor de pagini este mai mare
- b. Cu cat este mai mic ordinul N al unui arbore B, cu atât numarul scindarilor de pagini este mai mic
- c. Numarul scindarilor de pagini este independent de ordinul N al arborelui B
- d. Cu cat este mai mare ordinul N al unui arbore B, cu atât numarul scindarilor de pagini este mai mic

6.

Lungimile drumurilor de la radacina la oricare nod terminal sunt egale intr-un arbore B.

Select one:

- True
- False

7.

Intr-un arbore B toate paginile terminale apar la acelasi nivel.

Select one:

a. True  
 b. False

8.

In cazul unui arbore B, insertia unui nod intr-o pagina plina duce la

echilibrarea arborelui  
 contopirea paginii cu pagina parinte  
 scindarea paginii

9.

Arborei B sunt adesea utilizati pentru

Select one:

a. gestionarea unor date aflate in memoria externa  
 b. gestionarea unor date fara a le retine intr-un mod ordonat dupa chei  
 c. gestionarea unui numar redus de date  
 d. implementarea dictionarelor de cuvinte

*Huffman maybe*

[Clear my choice](#)

10.

Arborele B este un arbore echilibrat din punct de vedere al inaltimii

Select one:

a. True  
 b. False

11.

Intr-un arbore B, de ordinul N, o pagina poate avea maxim

Select one:

a.  $2N-1$  chei  
 b.  $2N$  chei  
 c.  $N$  chei  
 d.  $(N-1)/2$  chei

$m \leq m \leq 2m$

[Clear my choice](#)

# Insertie

1.

Sa se scrie configuratia arborelui B cu N=1, dupa insertia urmatoarelor chei in ordinea data:

7,4,5,6,9,8,1,2

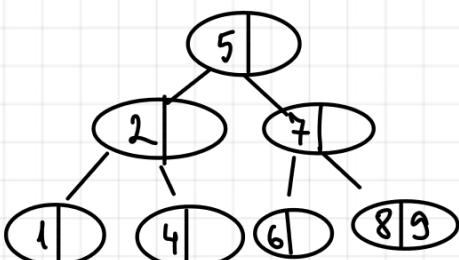
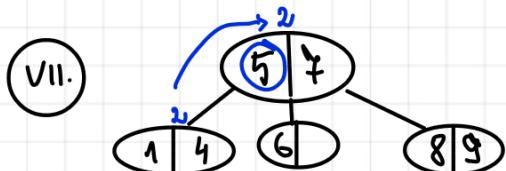
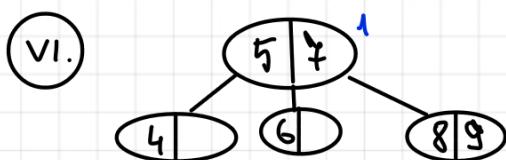
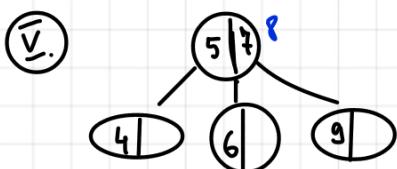
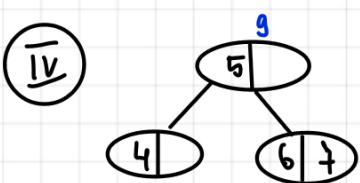
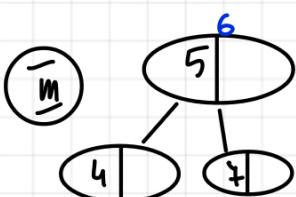
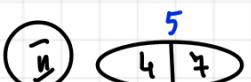
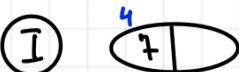
Nota:

Arborele se va scrie in modul urmator: Fiecare pagina incepe cu paranteza patrata deschisa [ si se termina cu cea inchisa ], fiecare cheie va fi separata de cheia altui nod din aceeasi pagina, prin virgula (,), iar bară verticală | va separa nivelurile intre ele.

Exemplu:

[B,D][A][C][F,G] reprezinta un arbore B cu doua niveluri, avand pe primul nivel radacina cu cheile B si D si pe al doilea nivel trei pagini: prima pagina cu cheia A, a doua cu cheia C si a treia cu cheile F si G.

Answer: [5][2][7][1][4][6][8,9]



[5][2][4][7][1][4][6][8,9]

2.

Sa se scrie configuratia arborelui B cu N=1, dupa insertia urmatoarelor chei in ordinea data: 7,9,8,1,4,3,2,5

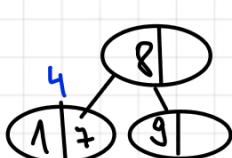
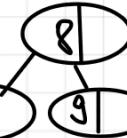
Nota:

Arborele se va scrie in modul urmator: Fiecare pagina incepe cu paranteza patrata deschisa [ si se termina cu cea inchisa ], fiecare cheie va fi separata de cheia altui nod din aceiasi pagina, prin virgula [, iar bara verticala |] va separa nivelurile intre ele.

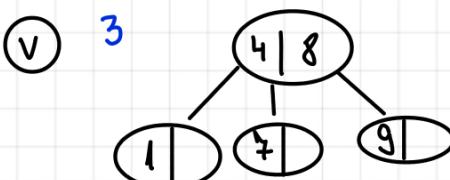
Exemplu:

[B,D][A][C][F,G] reprezinta un arbore B cu doua niveluri, avand pe primul nivel radacina cu cheile B si D si pe al doilea nivel trei pagini: prima pagina cu cheia A, a doua cu cheia C si a treia cu cheile F si G.

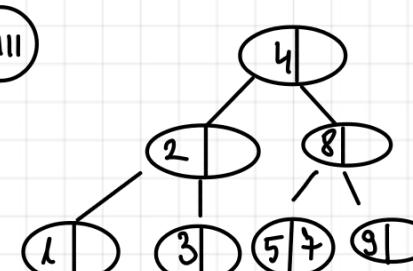
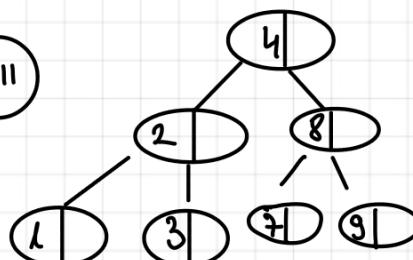
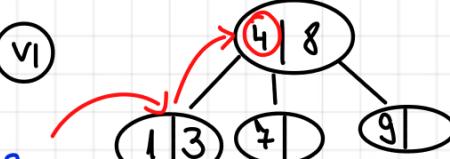
Answer: [4] | [2][8] | [1][3][5,7][9]



3



2



3.

Sa se scrie configuratia arborelui B cu N=1, dupa insertia urmatoarelor chei in ordinea data:

2,1,3,6,7,4,5

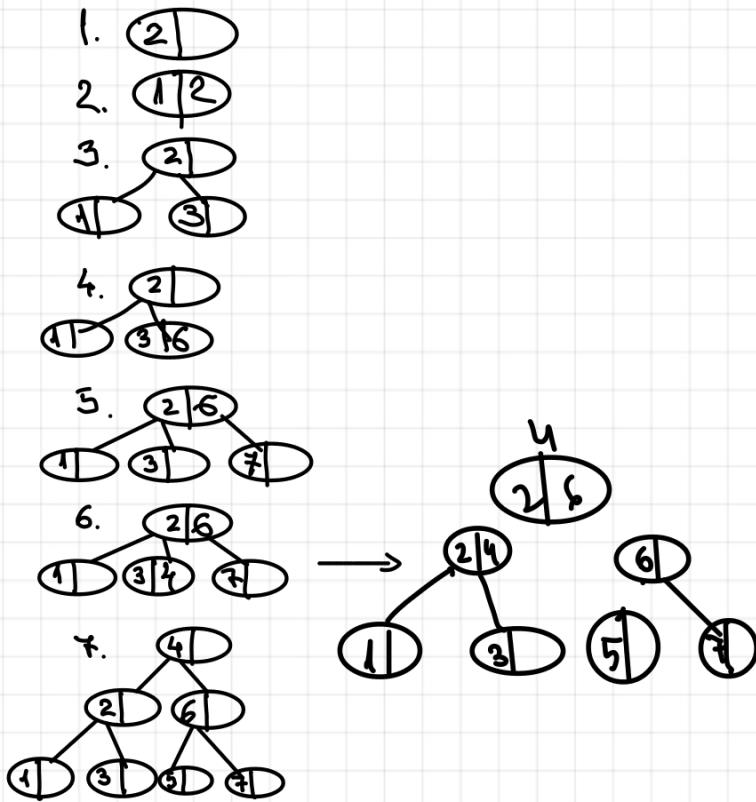
Nota:

Arborele se va scrie in modul urmator: Fiecare pagina incepe cu paranteza patrata deschisa [ si se termina cu cea inchisa ], fiecare cheie va fi separata de cheia altui nod din aceeasi pagina, prin virgula (,), iar bara verticala | va separa nivelurile intre ele.

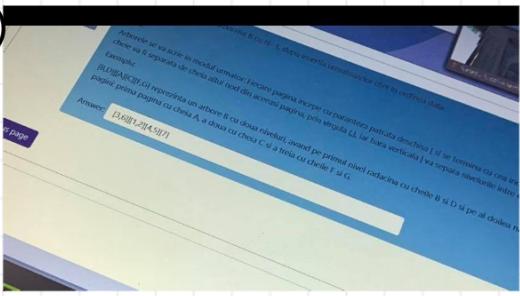
Exemplu:

[B,D][A][C][F,G] reprezinta un arbore B cu doua niveluri, avand pe primul nivel radacina cu cheile B si D si pe al doilea nivel trei pagini: prima pagina cu cheia A, a doua cu cheia C si a treia cu cheile F si G.

Answer: [4][2][6][1][3][5][7]



4.



5.

Sa se scrie configuratia arborelui B cu N=1, dupa insertia urmatoarelor chei in ordinea data:

5,3,2,1,4,7

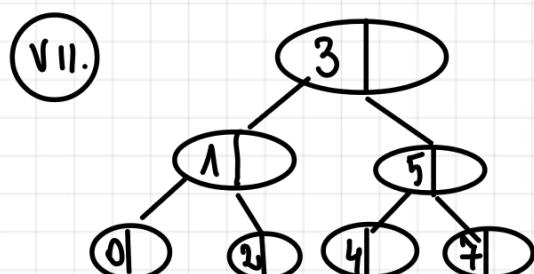
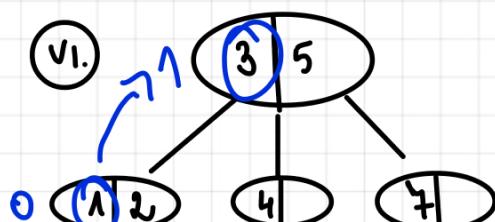
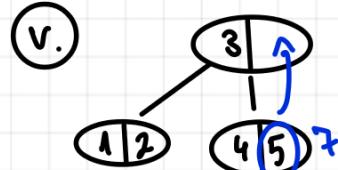
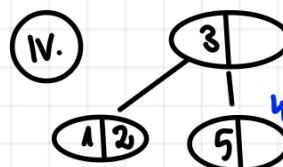
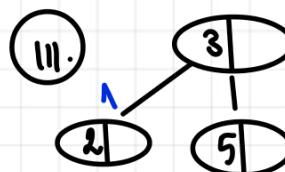
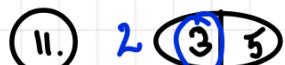
Nota:

Arborele se va scrie in modul urmator: Fiecare pagina incepe cu paranteza patrata deschisa [ si se termina cu cea inchisa ], fiecare cheie va fi separata de cheia altui nod din aceeasi pagina, prin virgula (,), iar bara verticala | va separa nivelurile intre ele.

Exemplu:

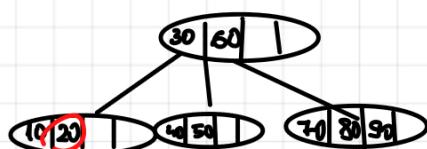
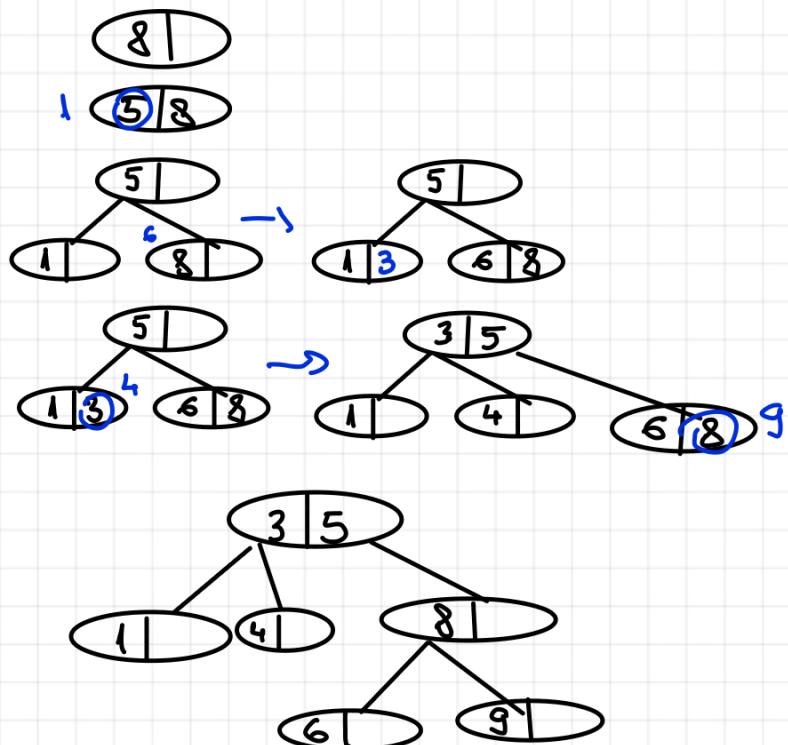
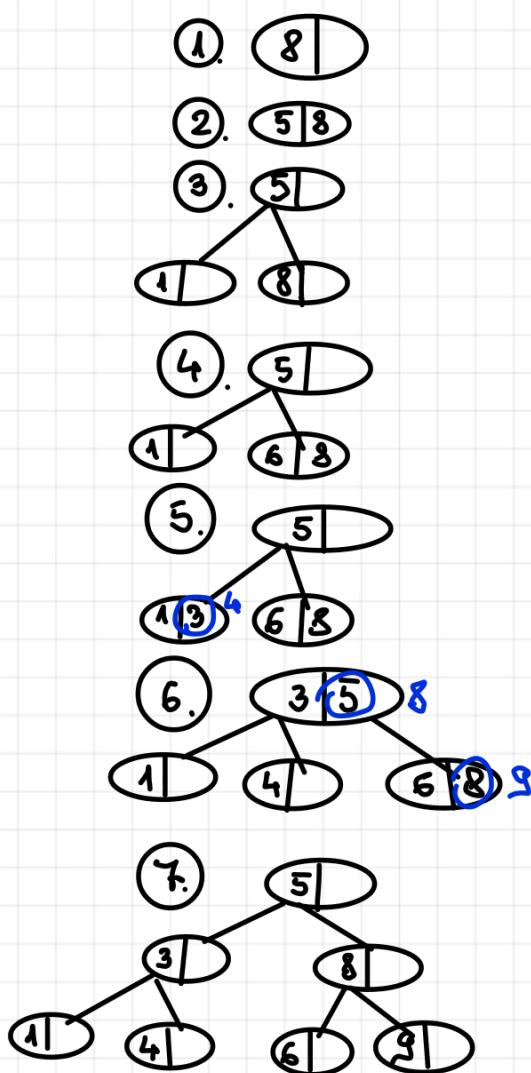
[B,D][A][C][F,G] reprezinta un arbore B cu doua niveluri, avand pe primul nivel radacina cu cheile B si D si pe al doilea nivel trei pagini: prima pagina cu cheia A, a doua cu cheia C si a treia cu cheile F si G.

Answer: [3,5][1,2][4][7]

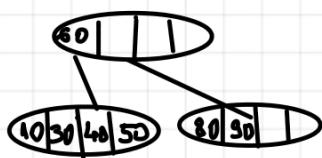
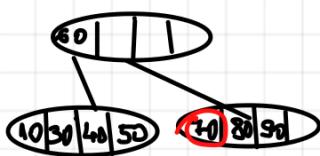
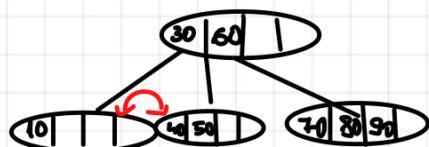


6.

8, 5, 1, 6, 3, 4, 9

 $N = 1$ 

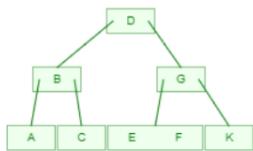
20, 60, 70



# Suprimări

1.

Sa se scrie configuratia arborelui B cu  $N=1$



$$m \leq n \leq 2m$$

avem max 2 el

subdepasire  $\rightarrow m < m$

dupa suprimarea urmatoarelor chei in ordinea data:

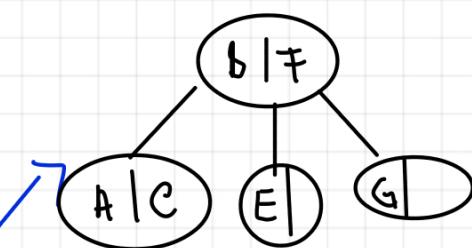
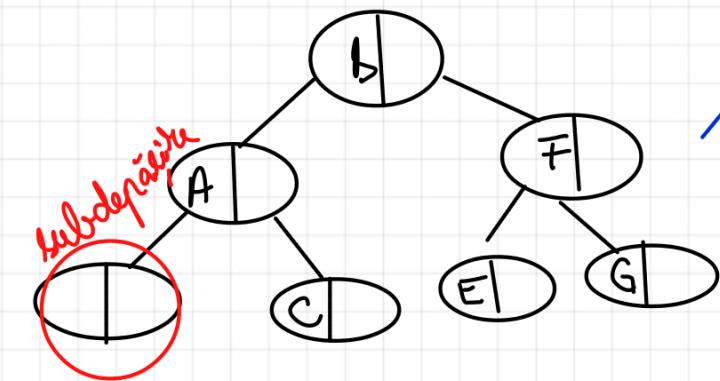
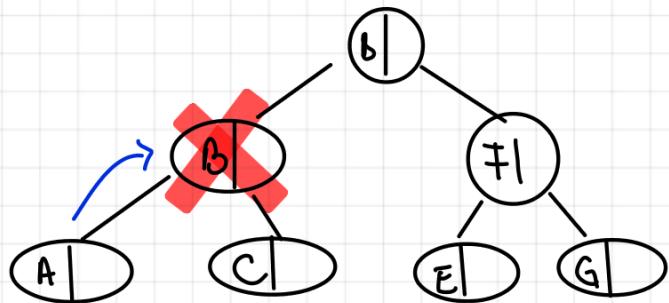
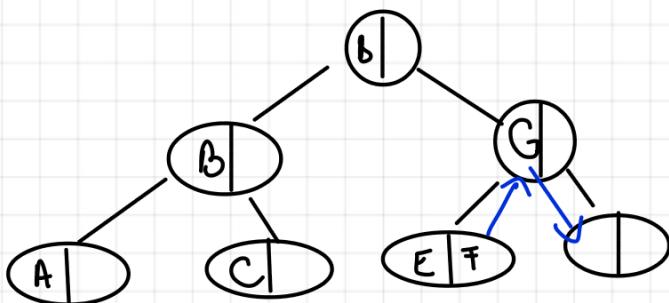
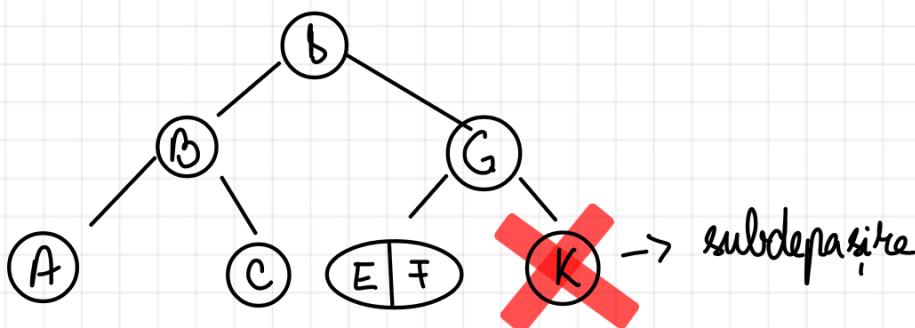
K,B

Nota:

Arboarele se va scrie in modul urmator: Fiecare pagina incepe cu paranteza patrata deschisa [ si se termina cu cea inchisa ], fiecare cheie va fi separata de cheia altui nod din aceeasi pagina, prin virgula (,), iar bara verticala | va separa nivelurile intre ele.

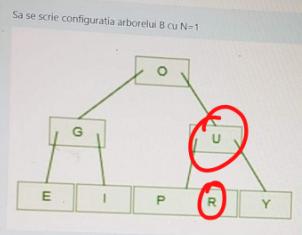
Exemplu:

[B,D][A][C][F,G] reprezinta un arbore B cu doua niveluri, avand pe primul nivel radacina cu cheile B si D si pe al doilea nivel trei pagini: prima pagina cu cheia A, a doua cu cheia C si a treia cu cheile F si G.



[b,f] | [a,c] [e] [g]

2.



dupa suprimarea urmatoarelor chei in ordinea data:

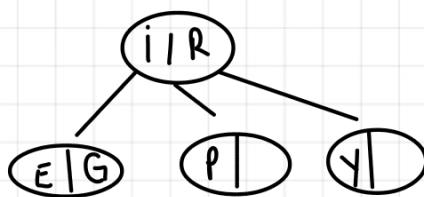
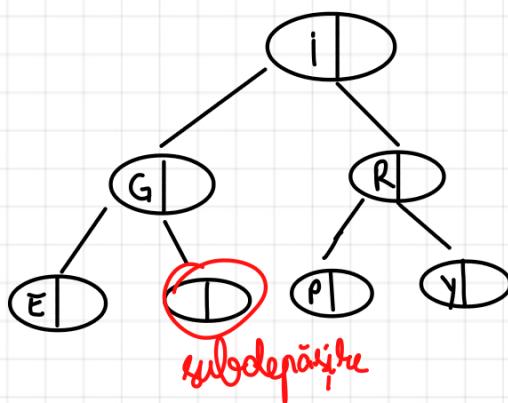
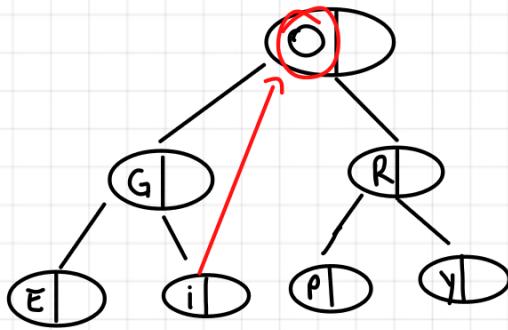
U,O

Nota:

Arborele se va scrie in modul urmator: Fiecare pagina incepe cu paranteza patrata deschisa [ si se termina cu coa inchisa ], fiecare cheie va fi separata de cheia altui nod din aceeasi pagina, prin virgula [, ] ar bară verticală ] va separa nivelurile intre ele.

Exemplu:

IR D|I|A|C|H|E|G|L reprezinta un arbore B cu două niveluri, unde pe primul nivel radacina cu cheile B și D si pe al doilea nivel trei



3.

Sa se scrie configuratia arborelui B cu N=2



$$2 \leq m \leq 4$$

dupa suprimarea urmatoarelor chei in ordinea data:

G,N

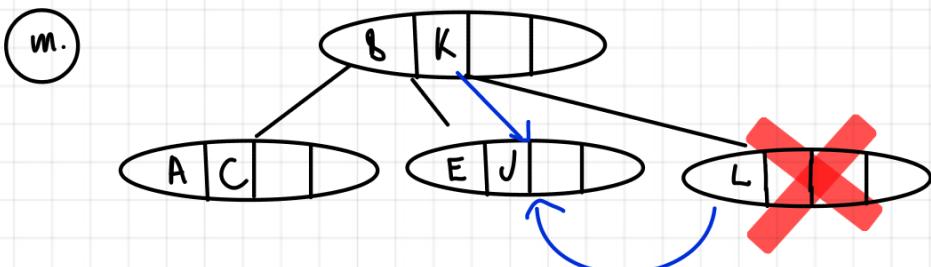
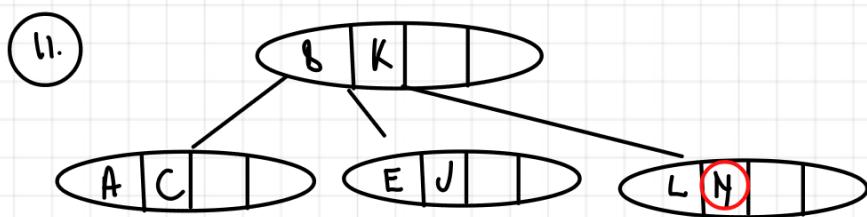
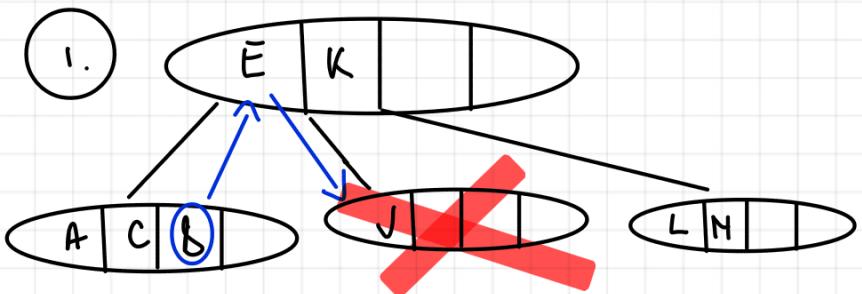
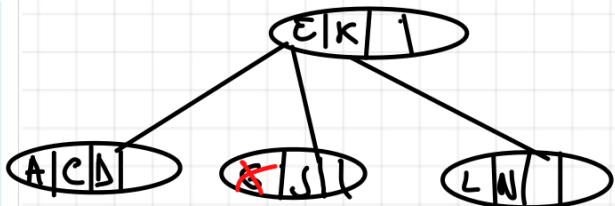
Nota:

Arborele se va scrie in modul urmator: Fiecare pagina incepe cu paranteza patrata deschisa [ si se termina cu cea inchisa ], fiecare cheie va fi separata de cheia altui nod din aceeasi pagina, prin virgula (,), iar bara verticala | va separa nivelurile intre ele.

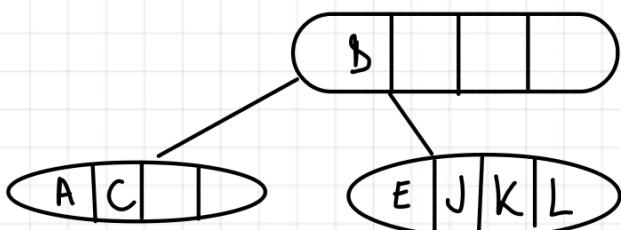
Exemplu:

[B,D][A][C][F,G] reprezinta un arbore B cu doua niveluri, avand pe primul nivel radacina cu cheile B si D si pe al doilea nivel trei pagini: prima pagina cu cheia A, a doua cu cheia C si a treia cu cheile F si G.

Answer: [D][[A,C][E,J,K,L]]

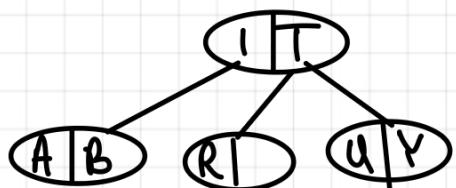
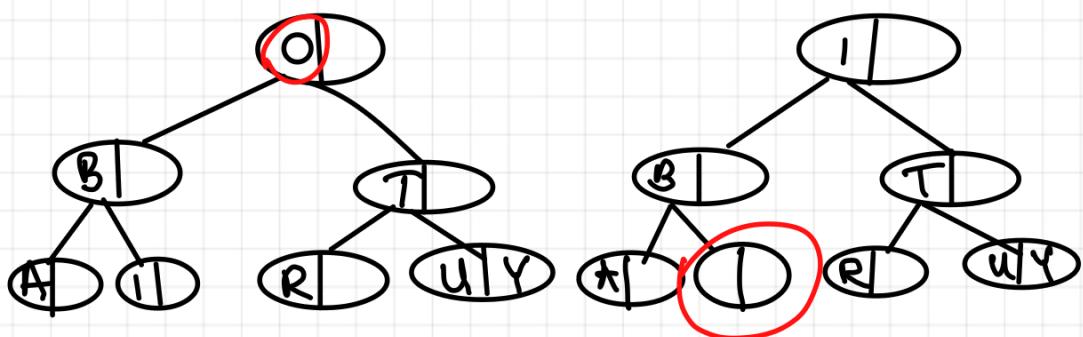
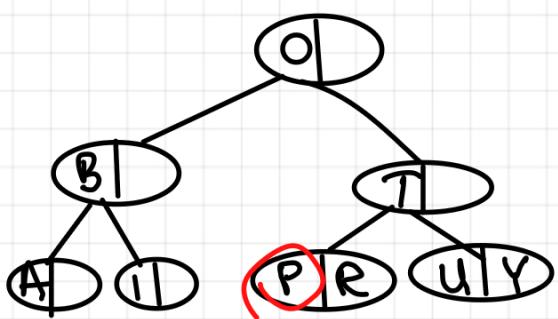
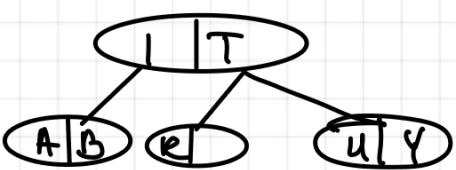
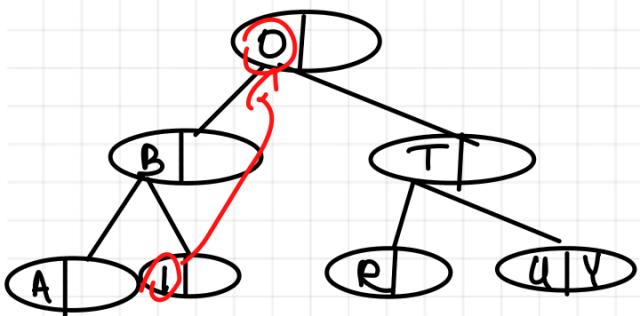
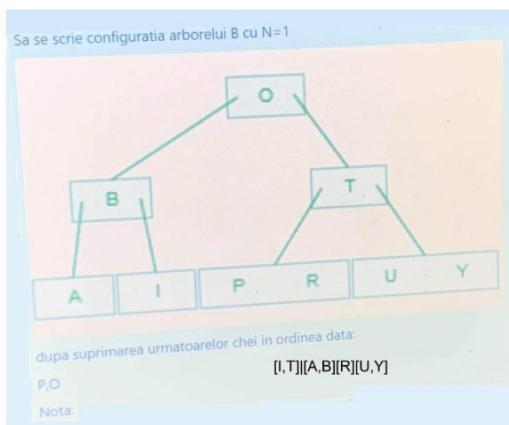


subdeplășire  
nu me putem împotriva

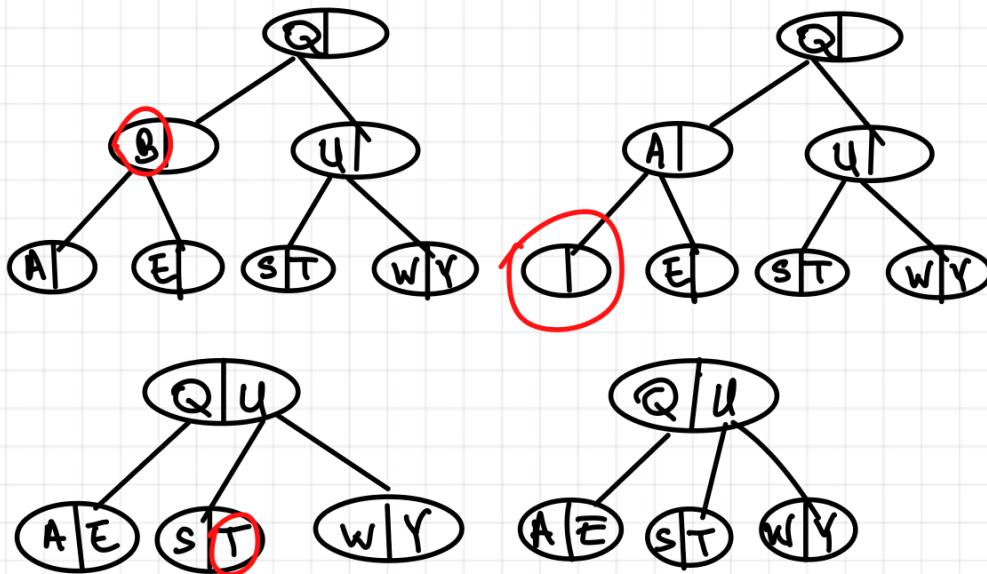
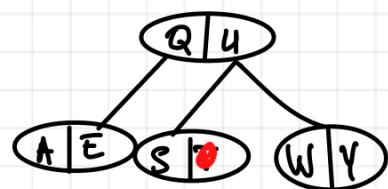
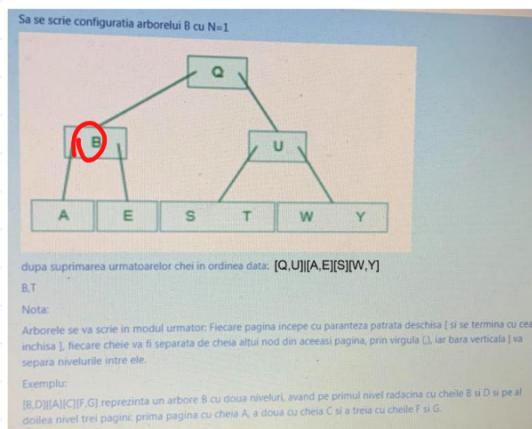


[B] | [A, C] [E, J, K, L]

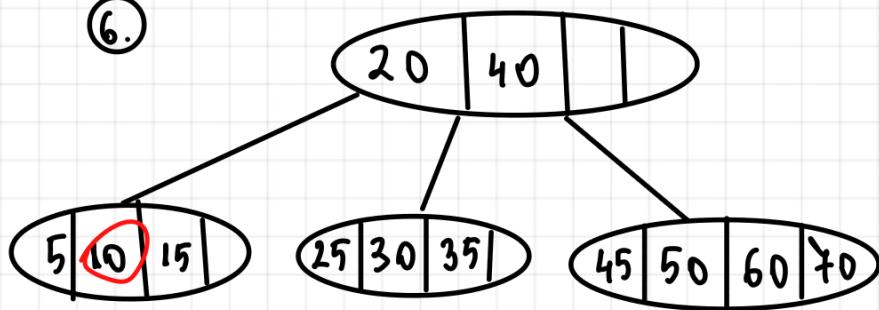
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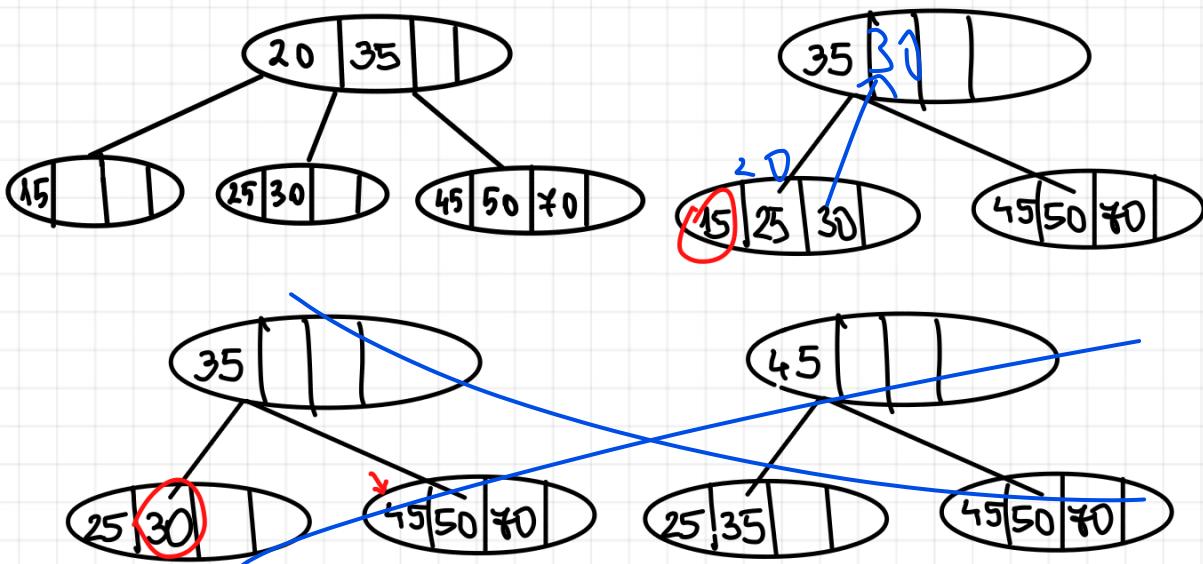
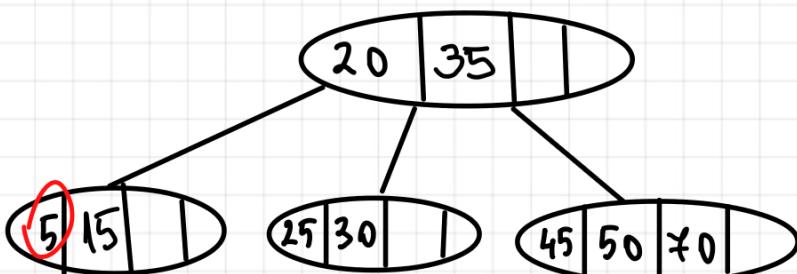
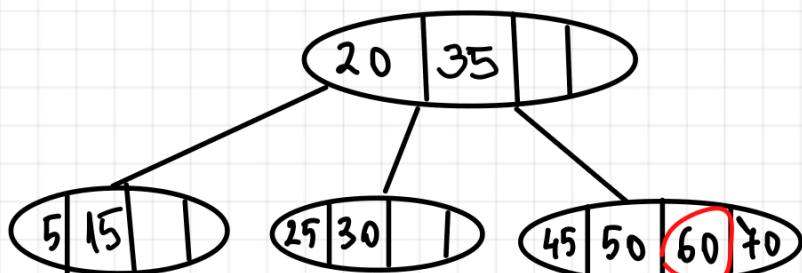
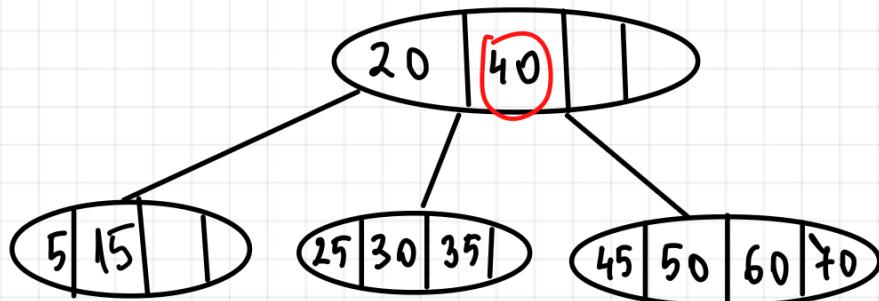
5.

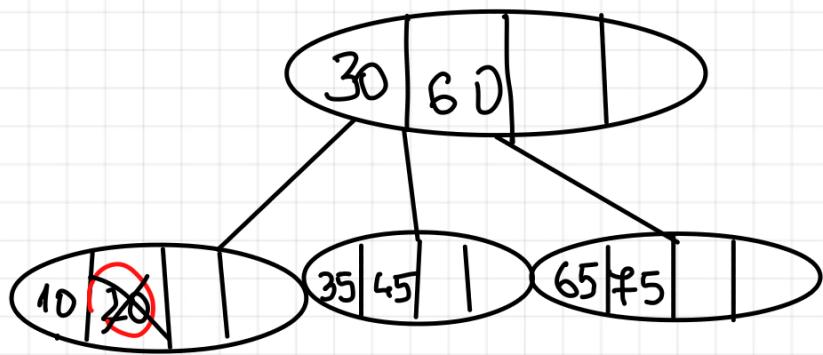


6.

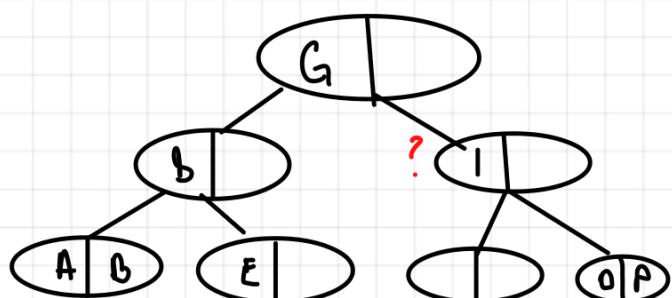
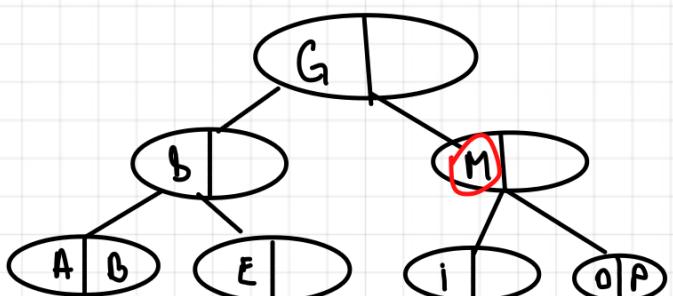
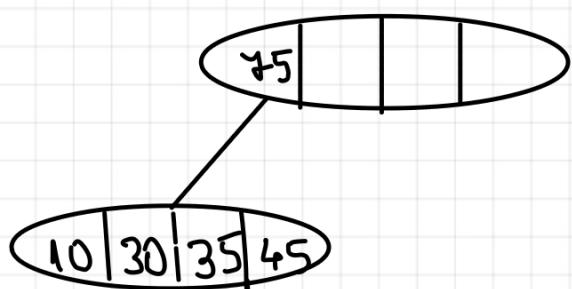
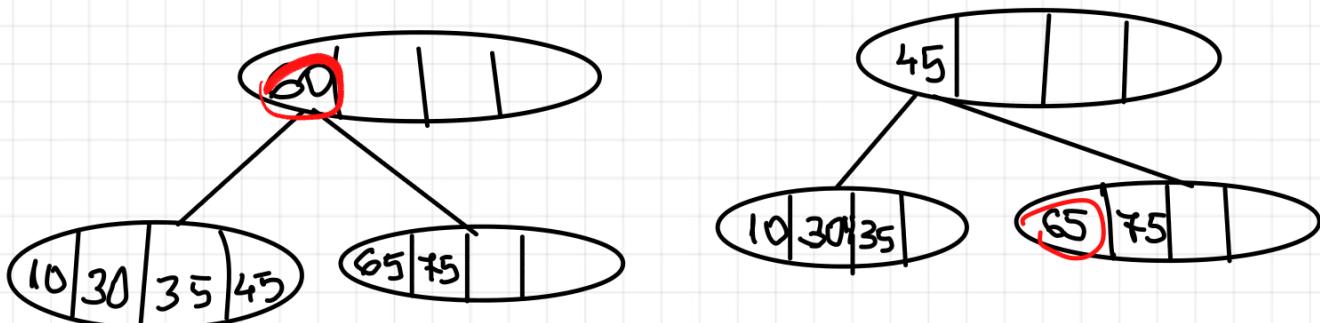


Die Werte: 10, 40, 60, 5, 15, 30

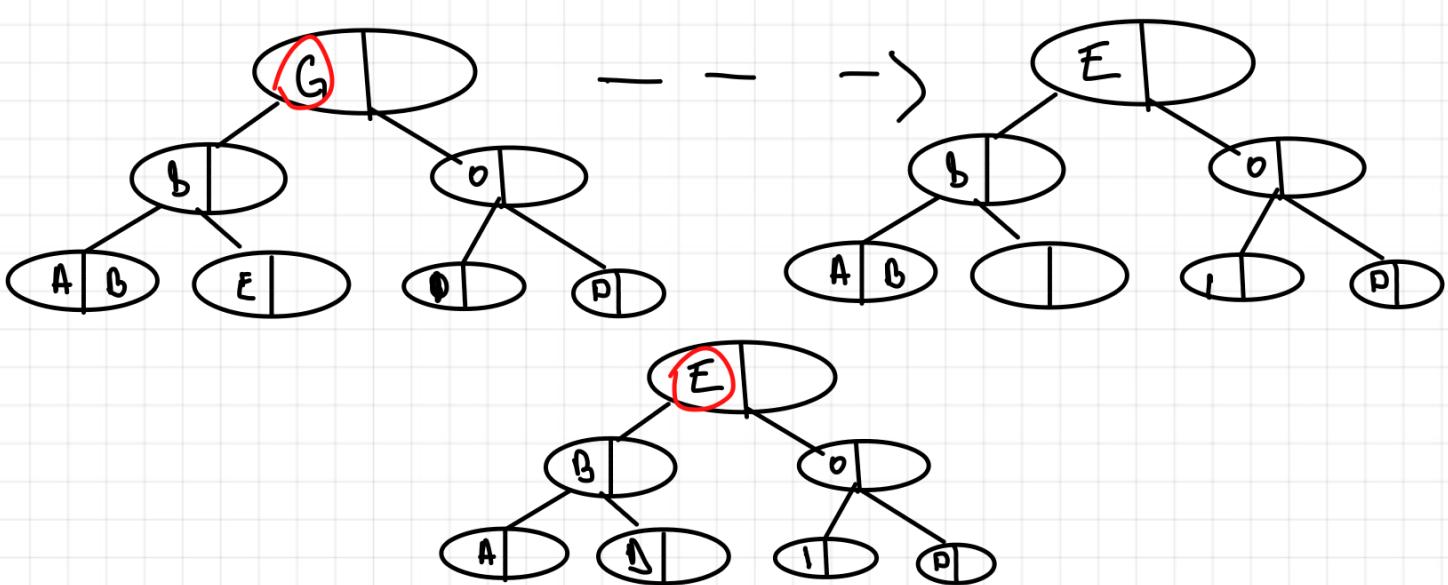


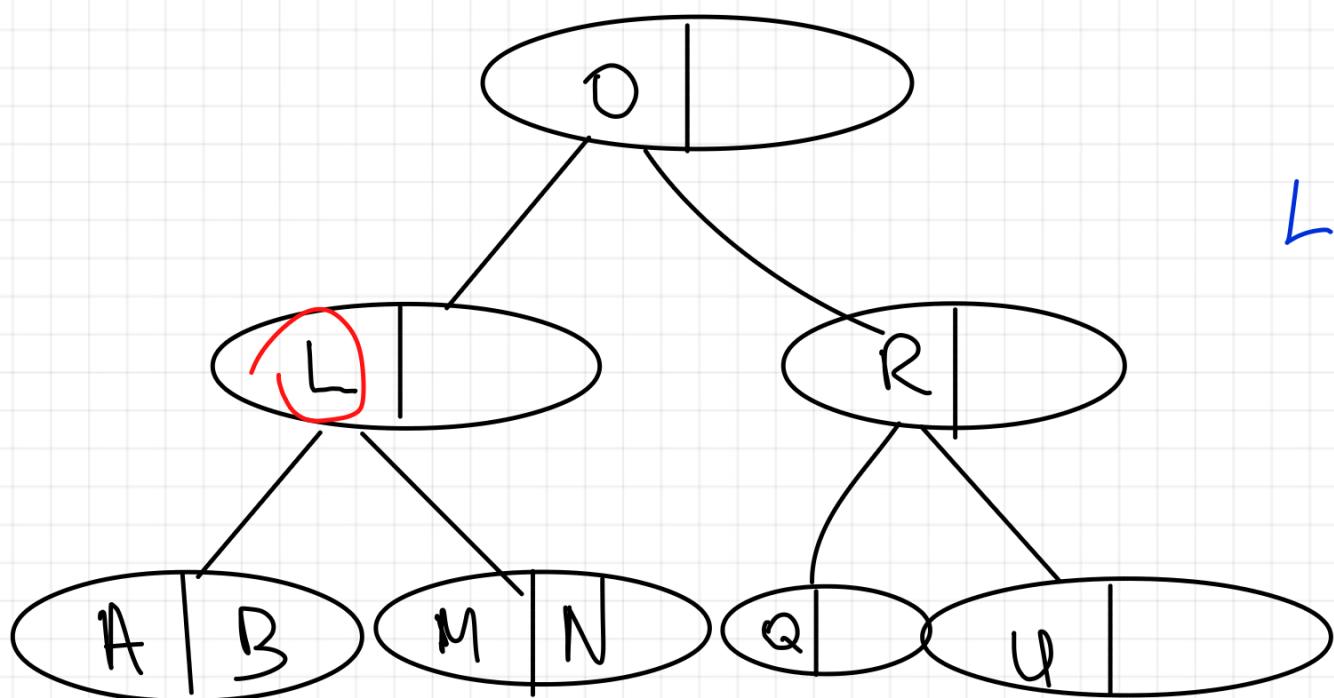
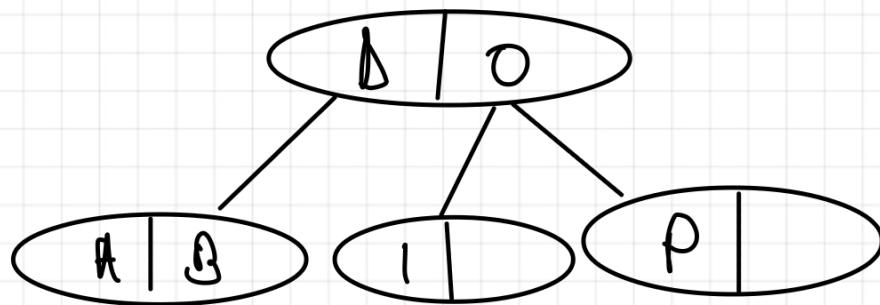
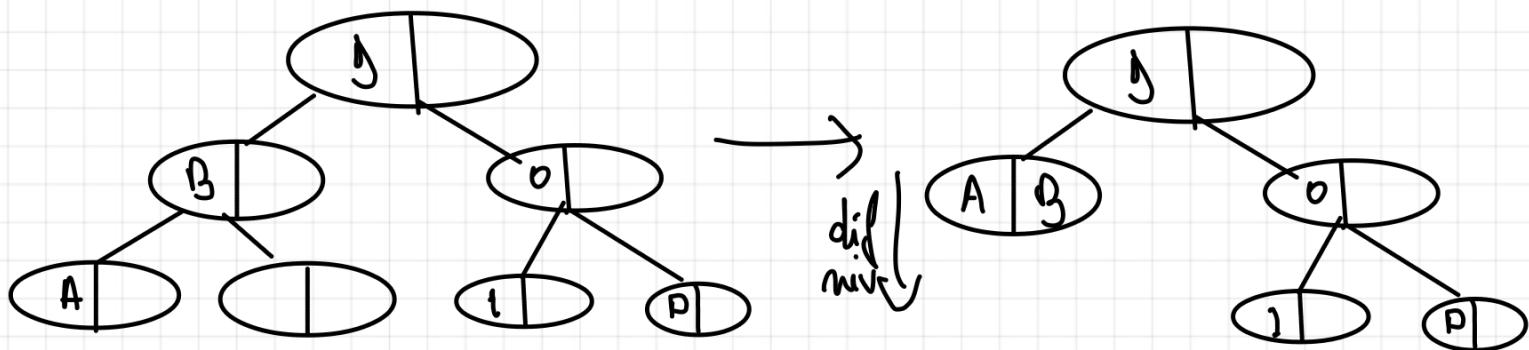


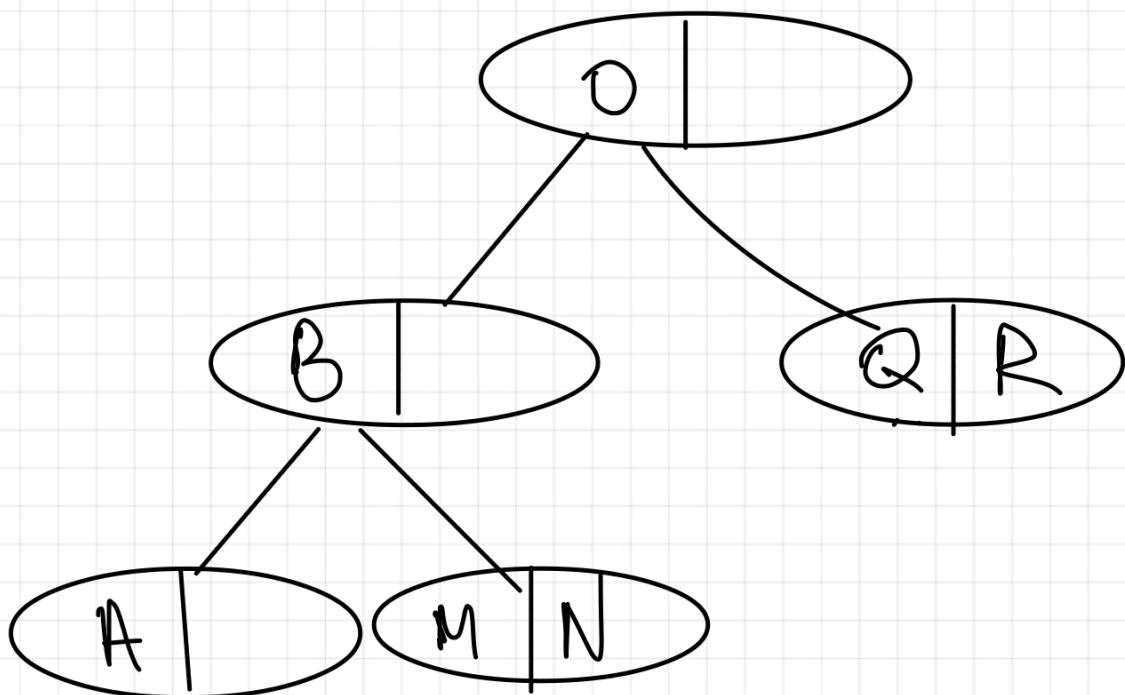
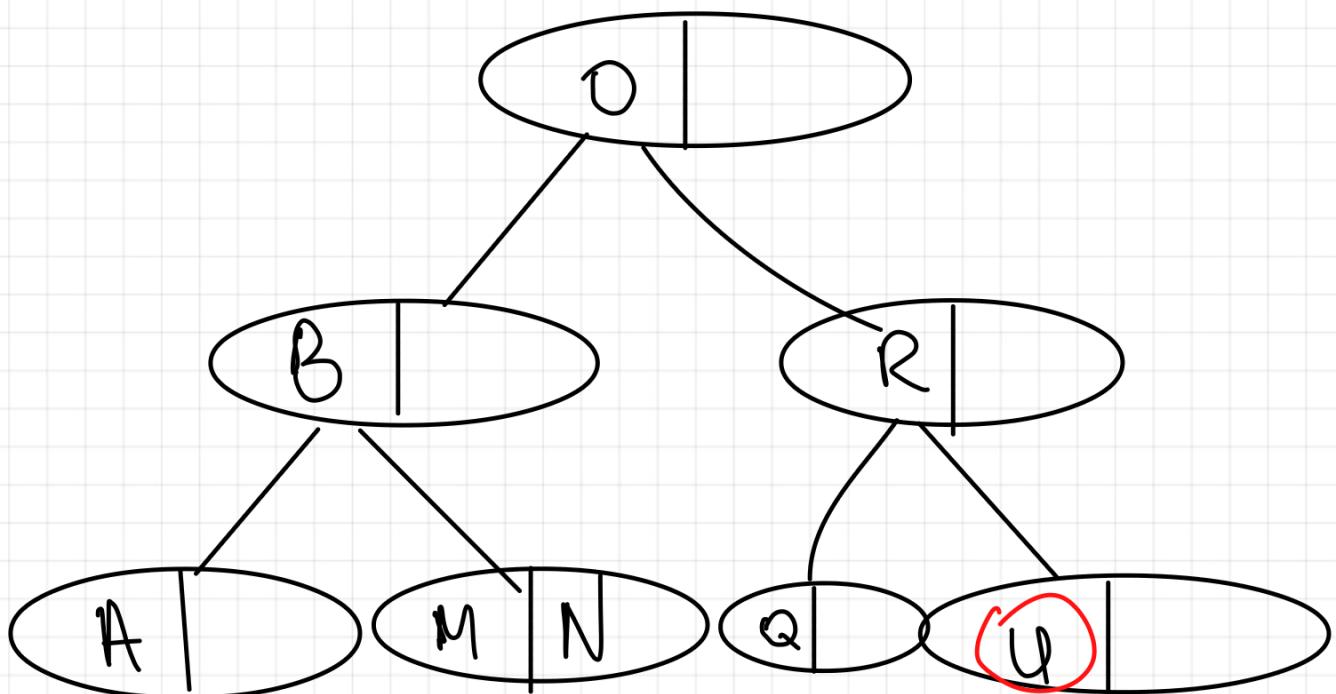
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M, G, E

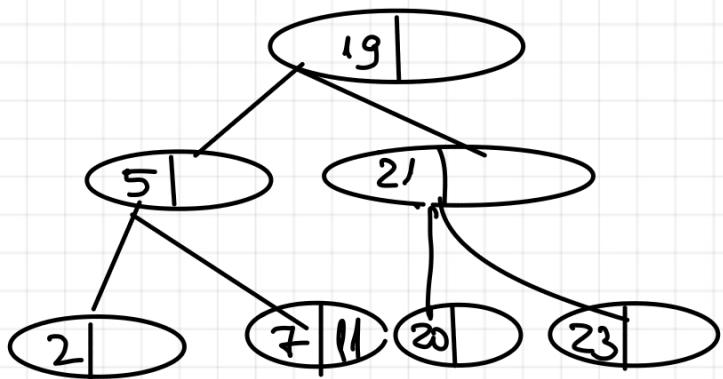
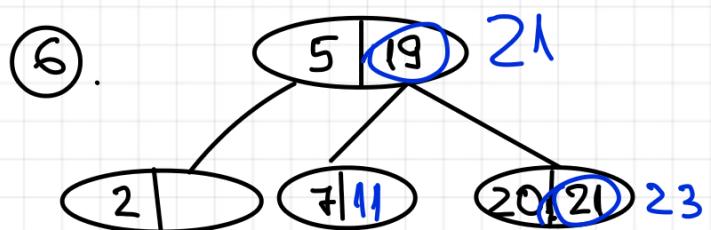
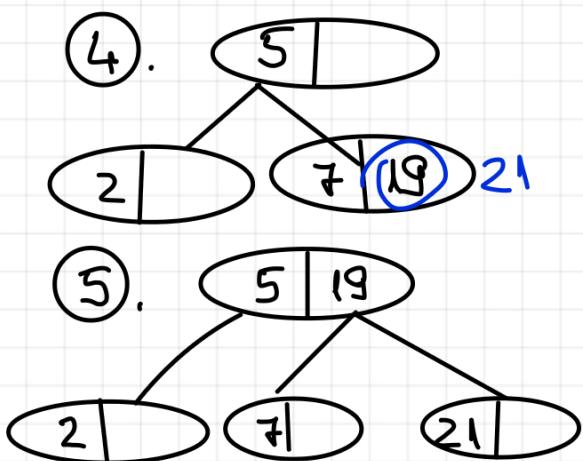
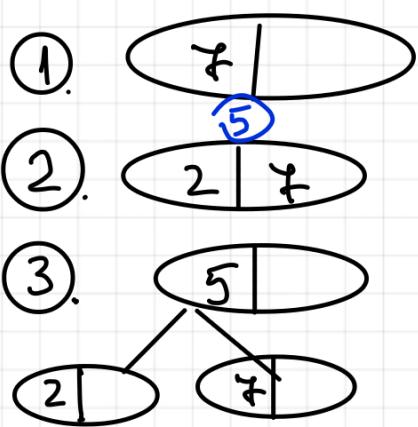




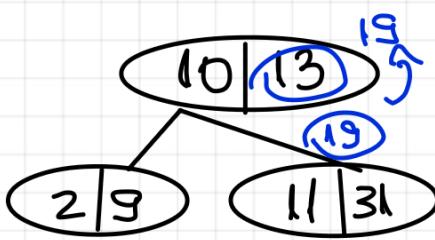
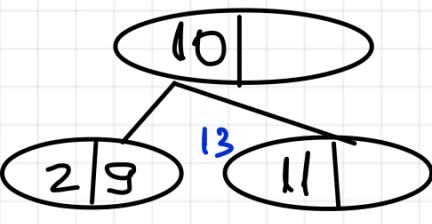
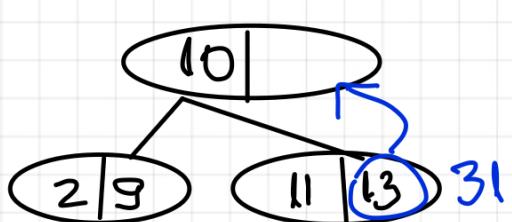
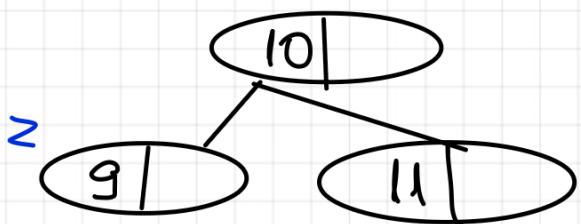
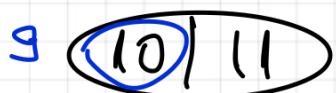


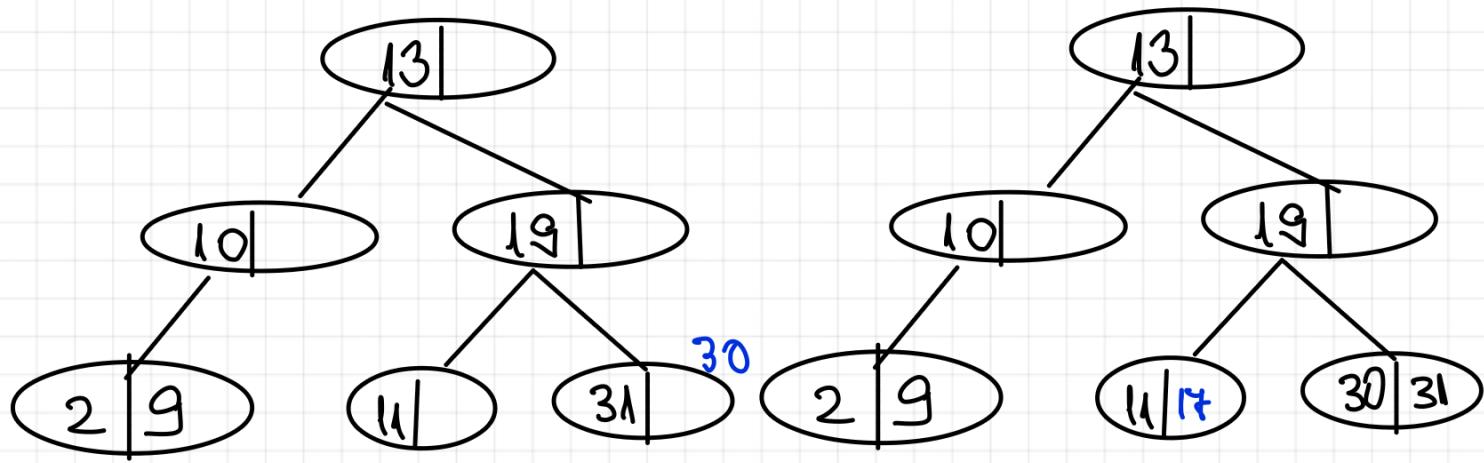
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7, 2, 5, 19, 21, 20, 11



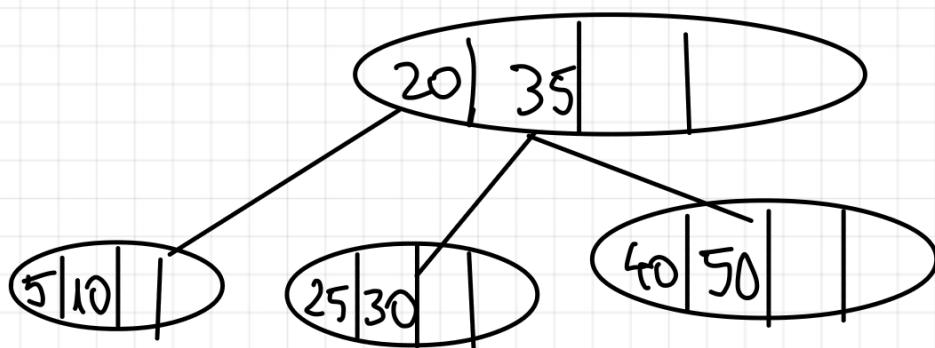
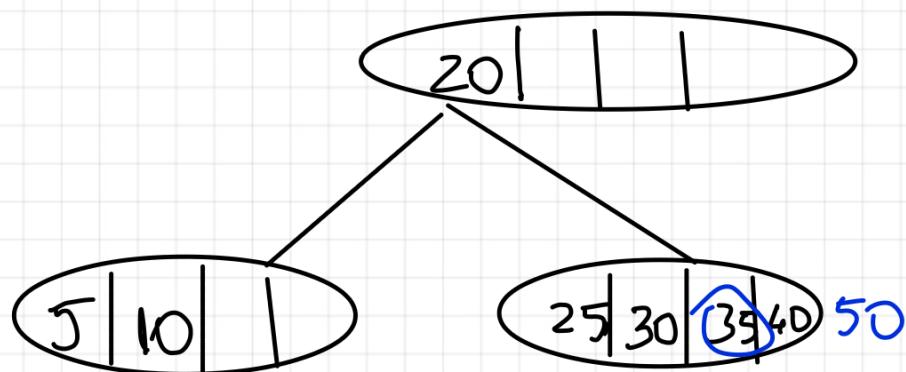
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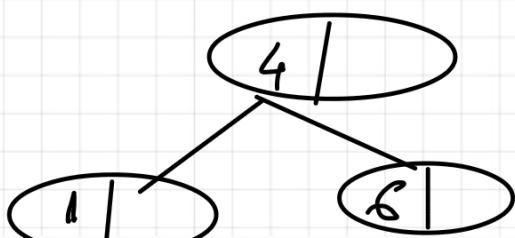

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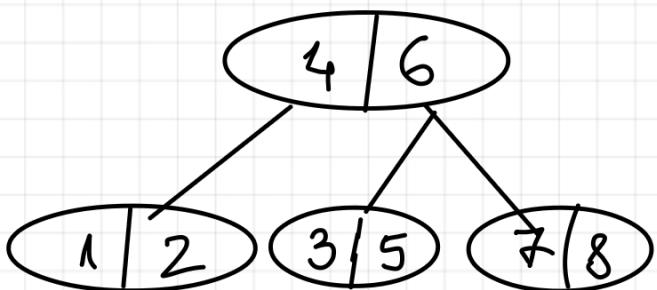
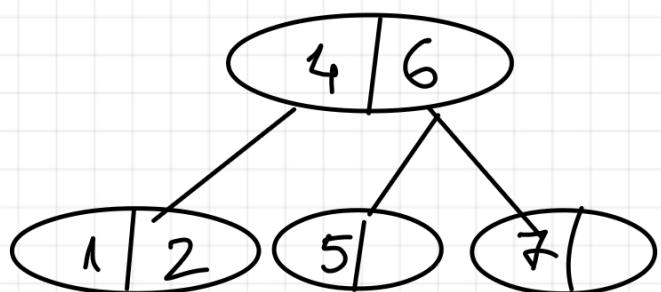
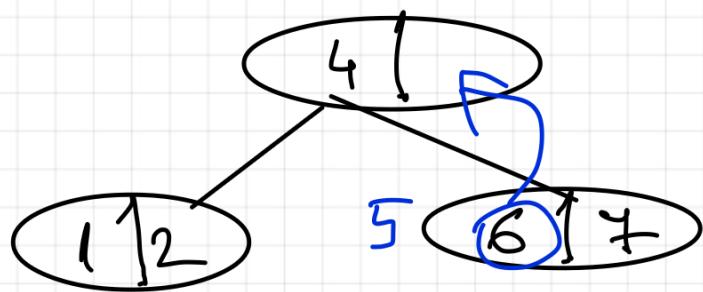
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 5 | 10 | 20 | 30 | 40




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4, 1, 1, 5, 2, 7, 5, 3, 8





50, 15, 70, 35, 10, 60, 5, 30, 20, 40

