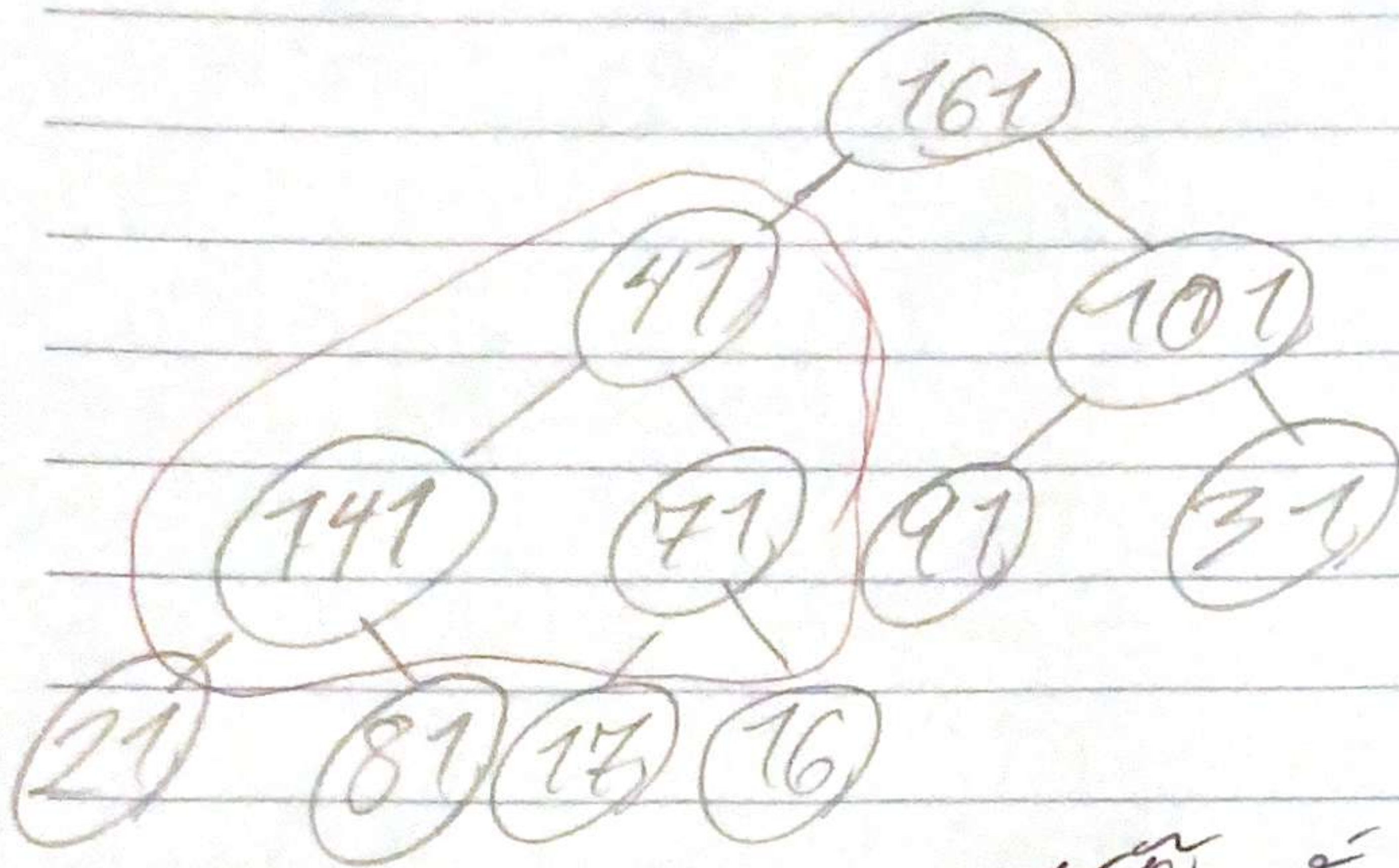


## Questão 22

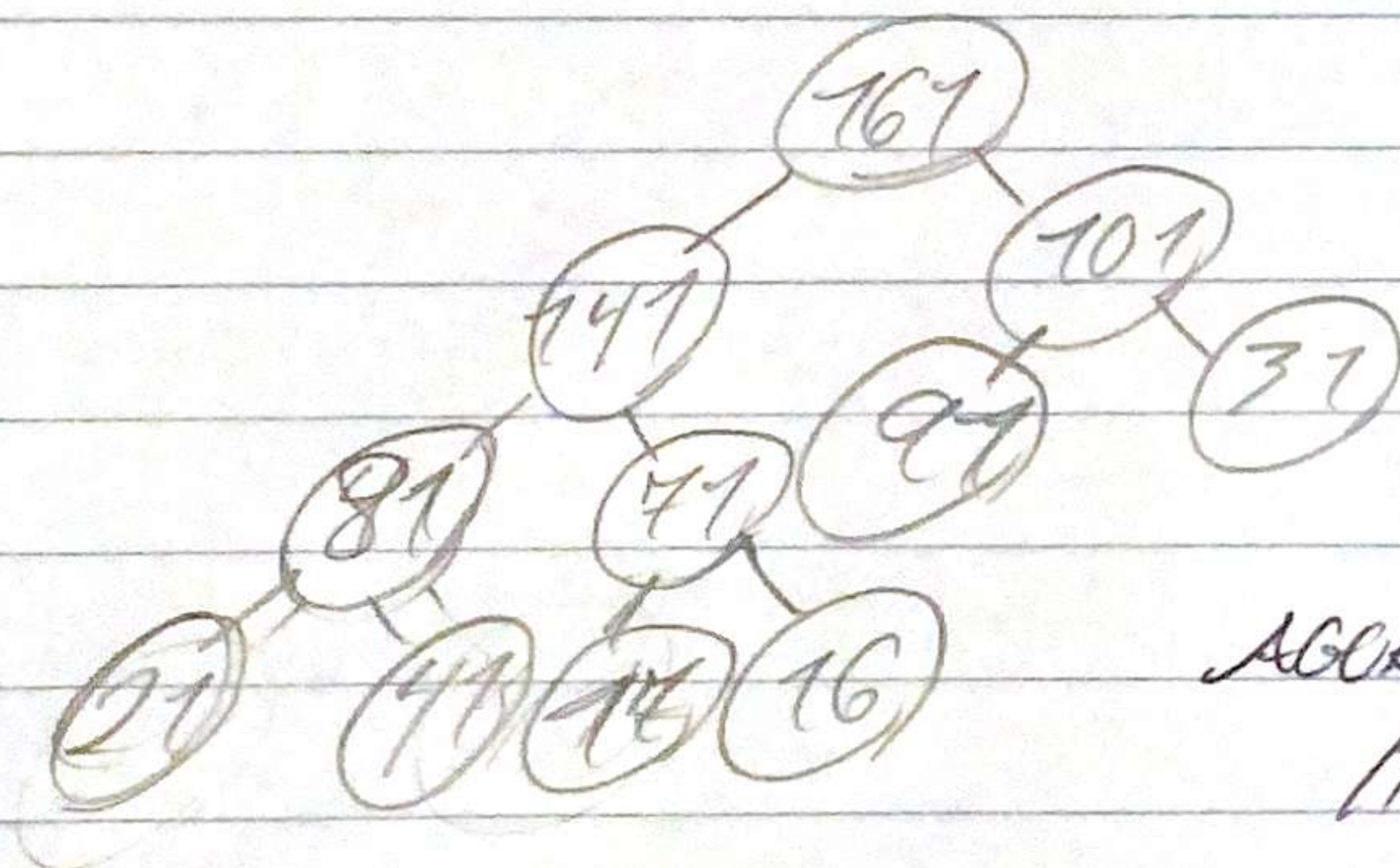


NÃO É UM HEAP

POIS EXISTEM FILHOS COM

PROPRIEDADE MAIOR QUE DO PAI

~~161 > 47~~, 141 > 47



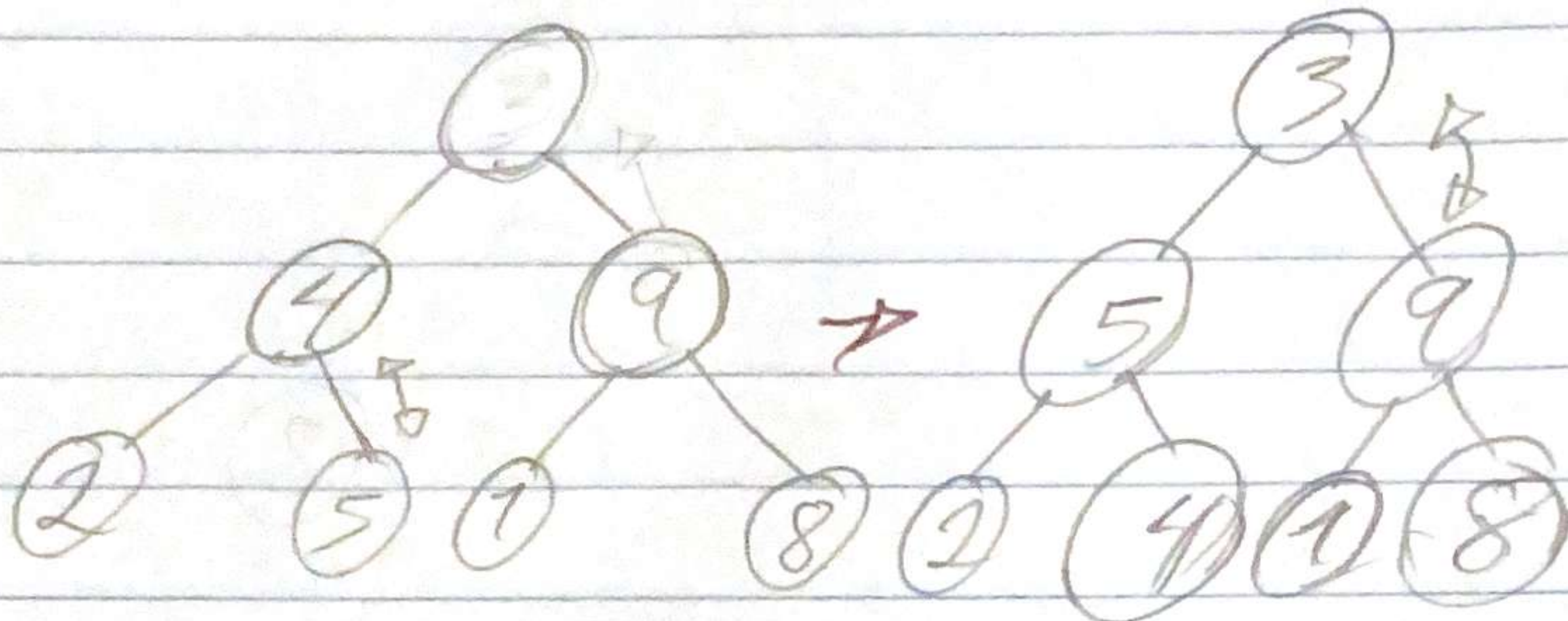
AGORA É UM  
HEAP



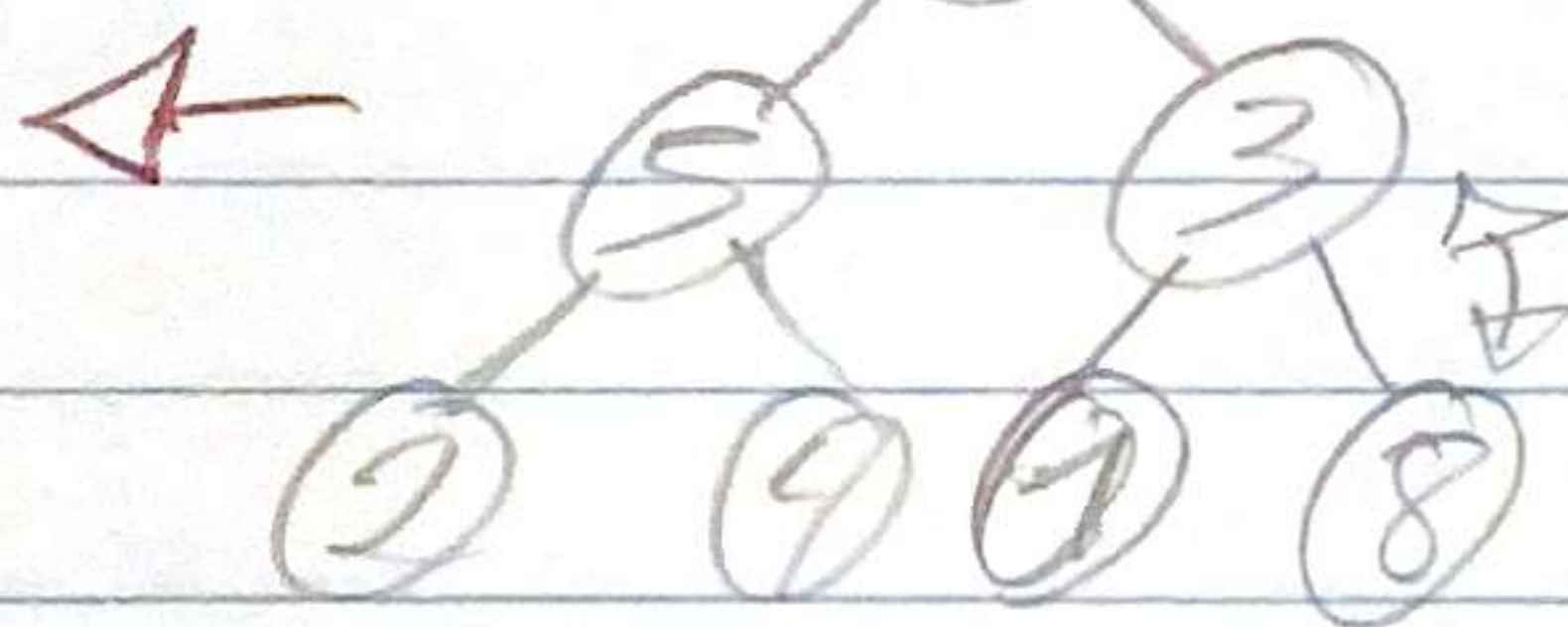
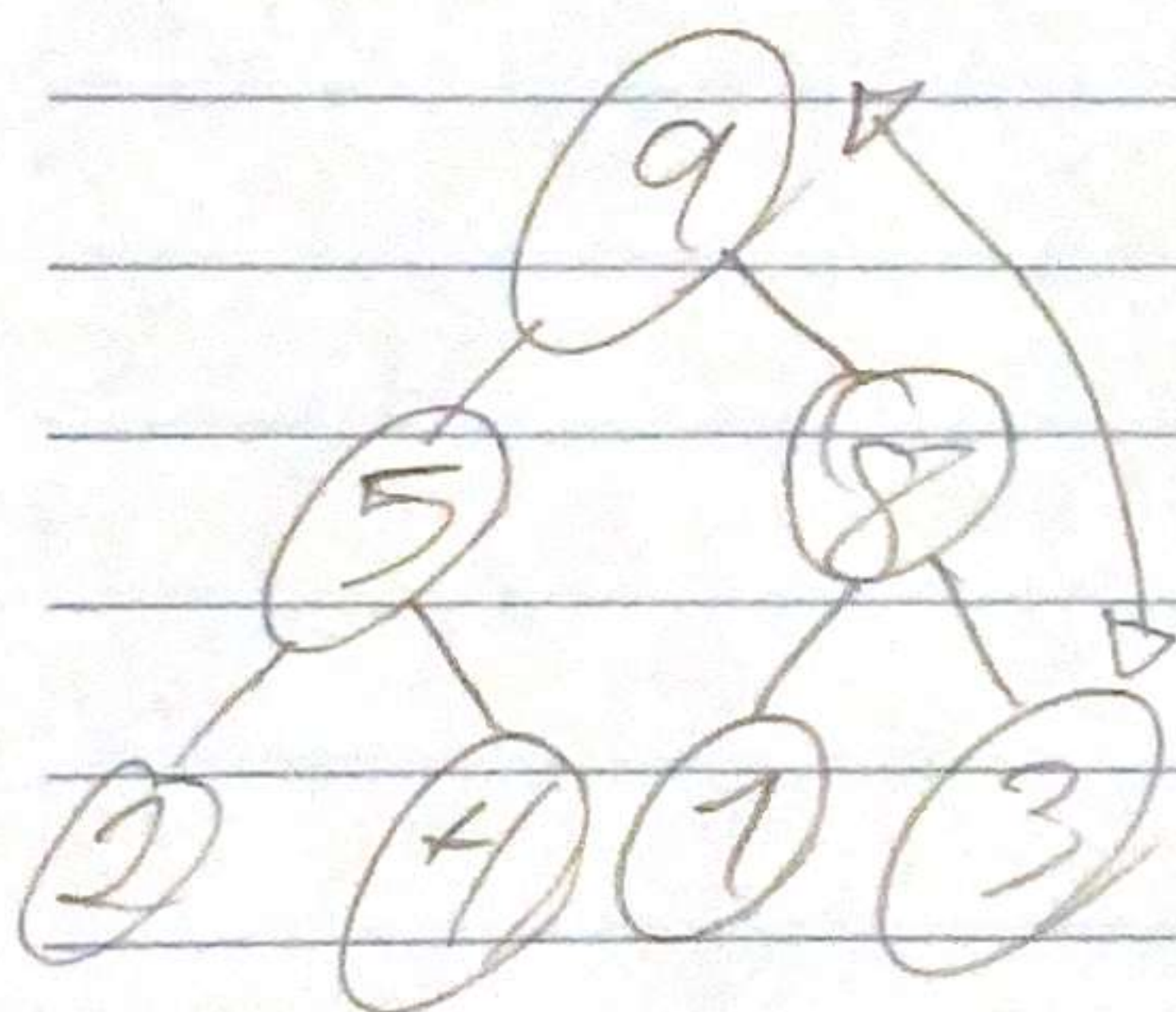
Ques 23 (A)

$$\begin{aligned} & \lfloor (i-1)/2 \rfloor - \text{PAI} \\ & \lfloor (2 \cdot i) + 1 \rfloor - \text{FC} \\ & \lfloor (2 \cdot i) + 2 \rfloor - \text{FD} \end{aligned}$$

3 4 9 2 5 7 8



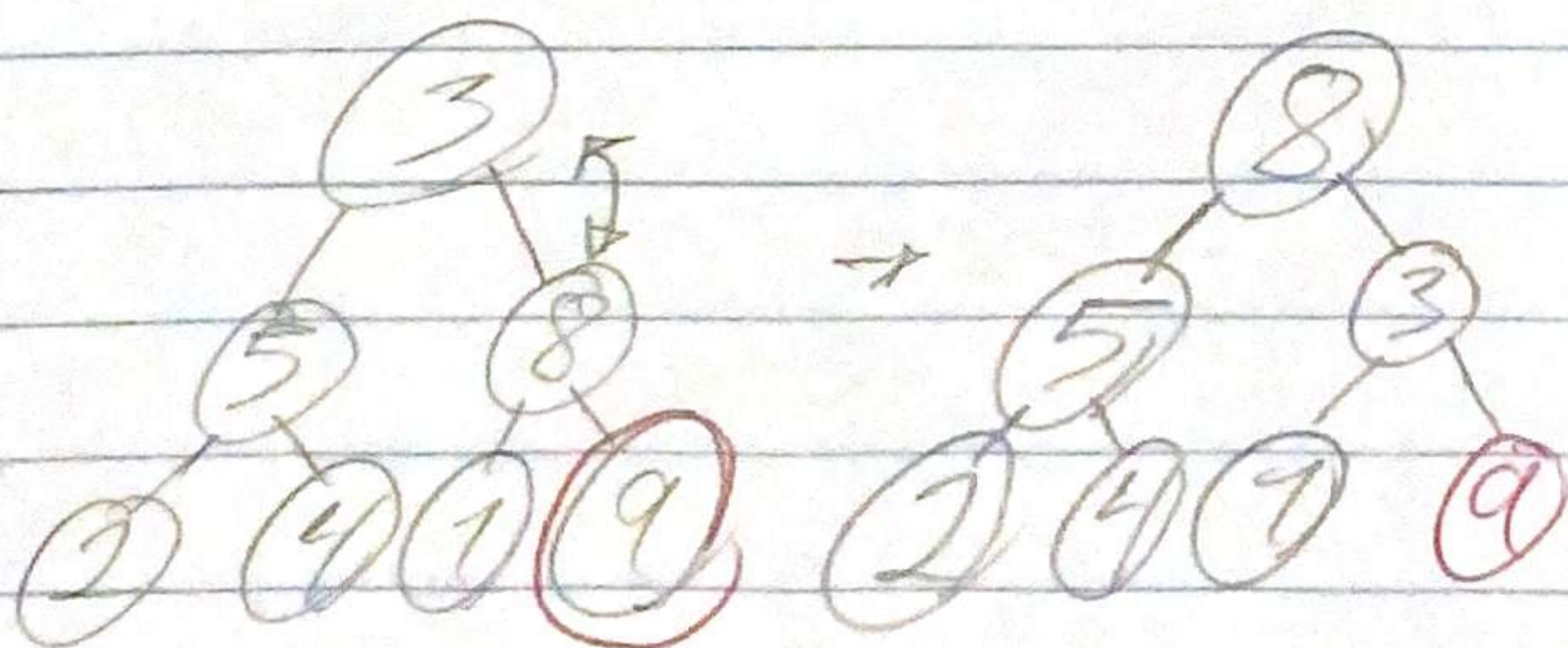
3 5 9 2 4 7 8



9 5 3 2 4 7 8

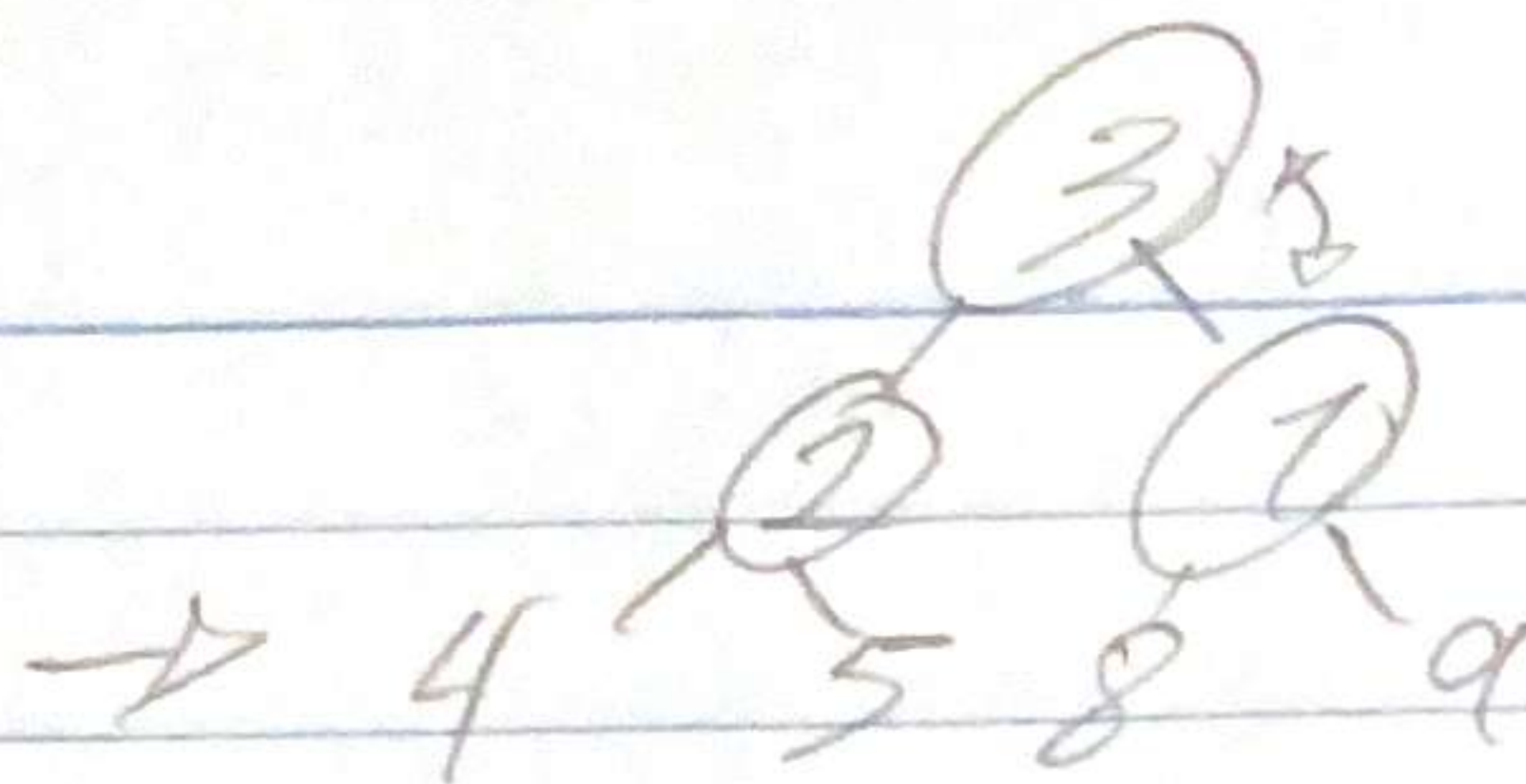
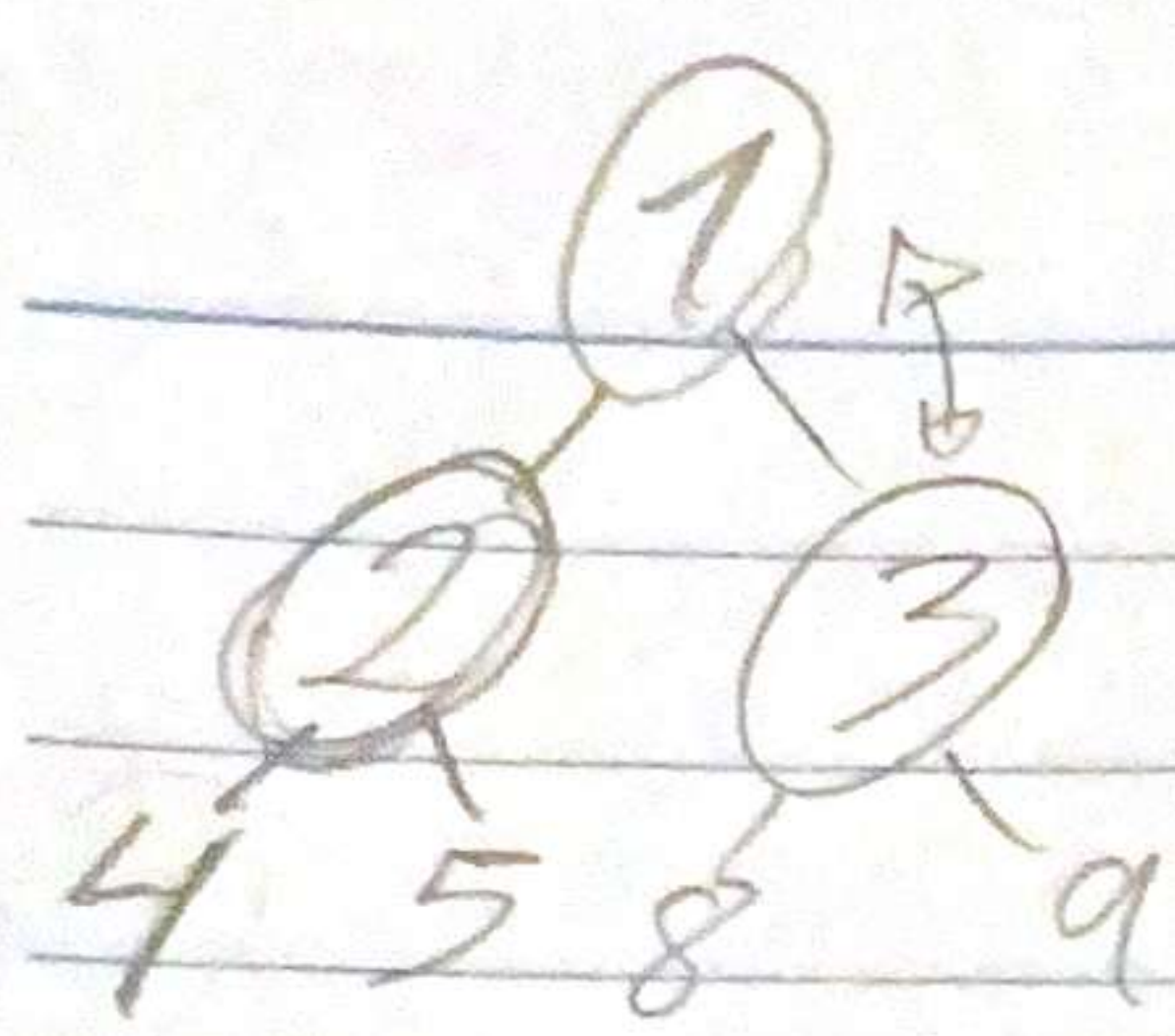
9 5 8 2 4 7 3

3 5 8 2 4 7 9



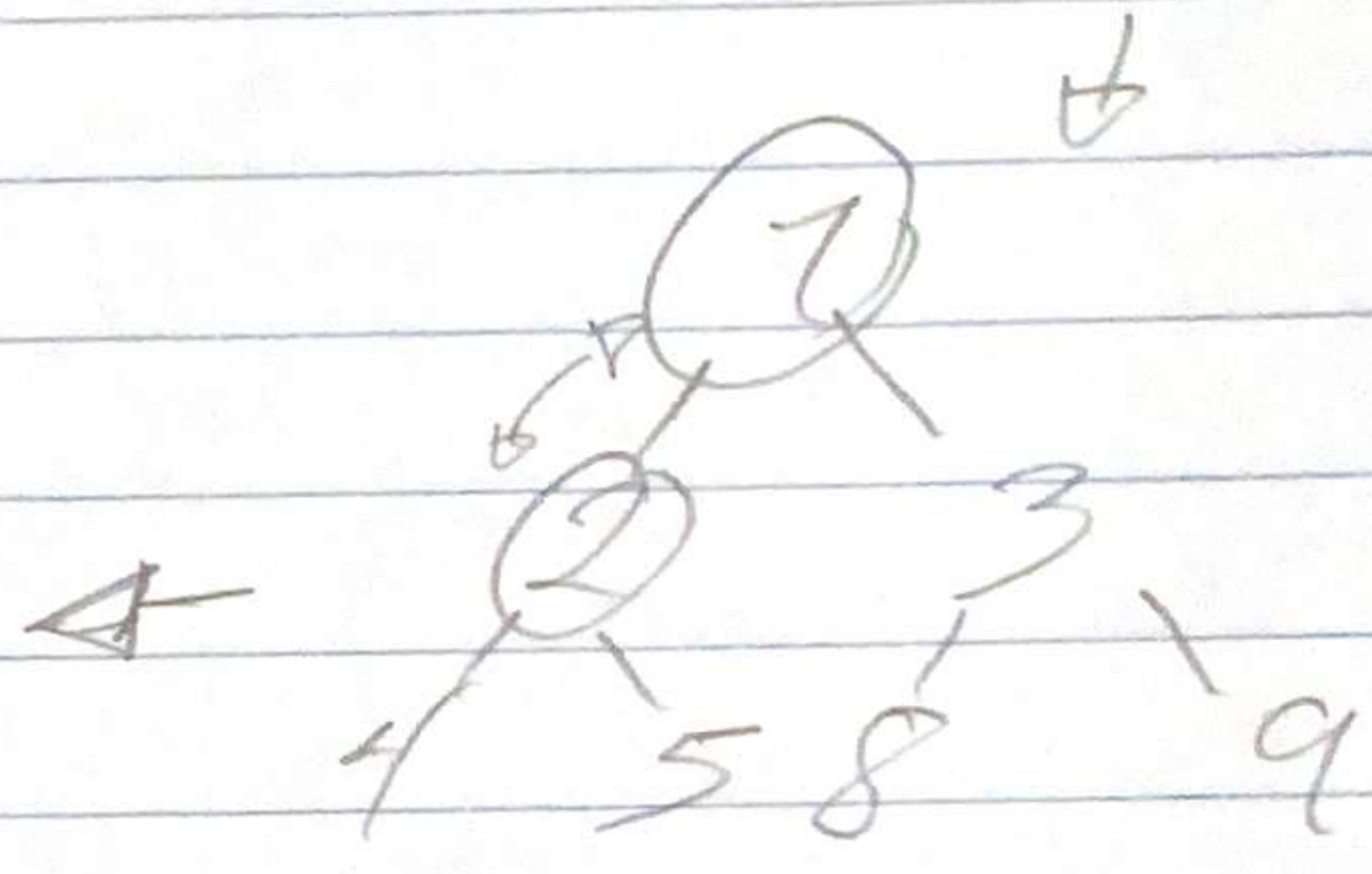
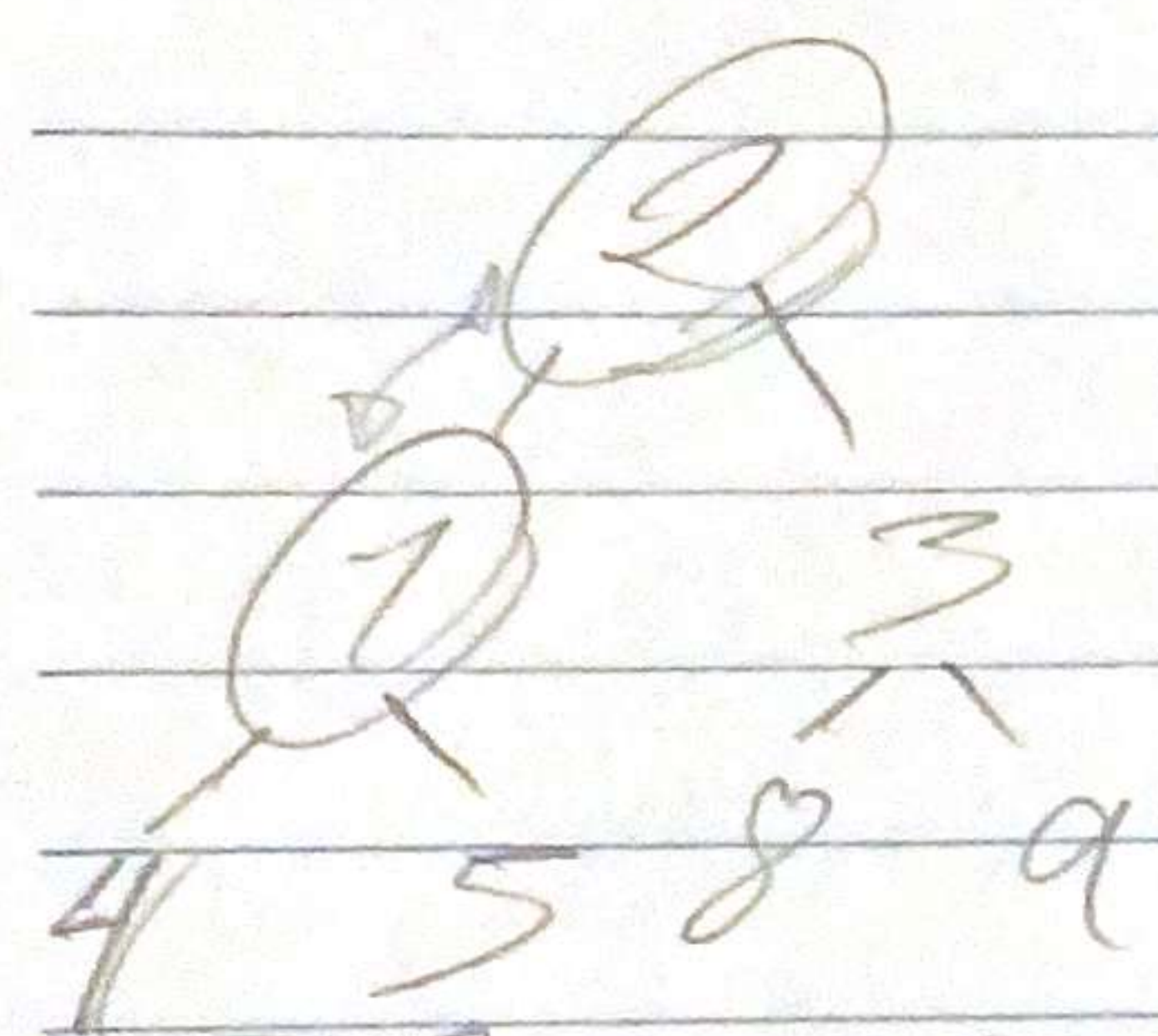
8 5 3 2 4 7 9





1, 2, 3 4, 5, 8, 9

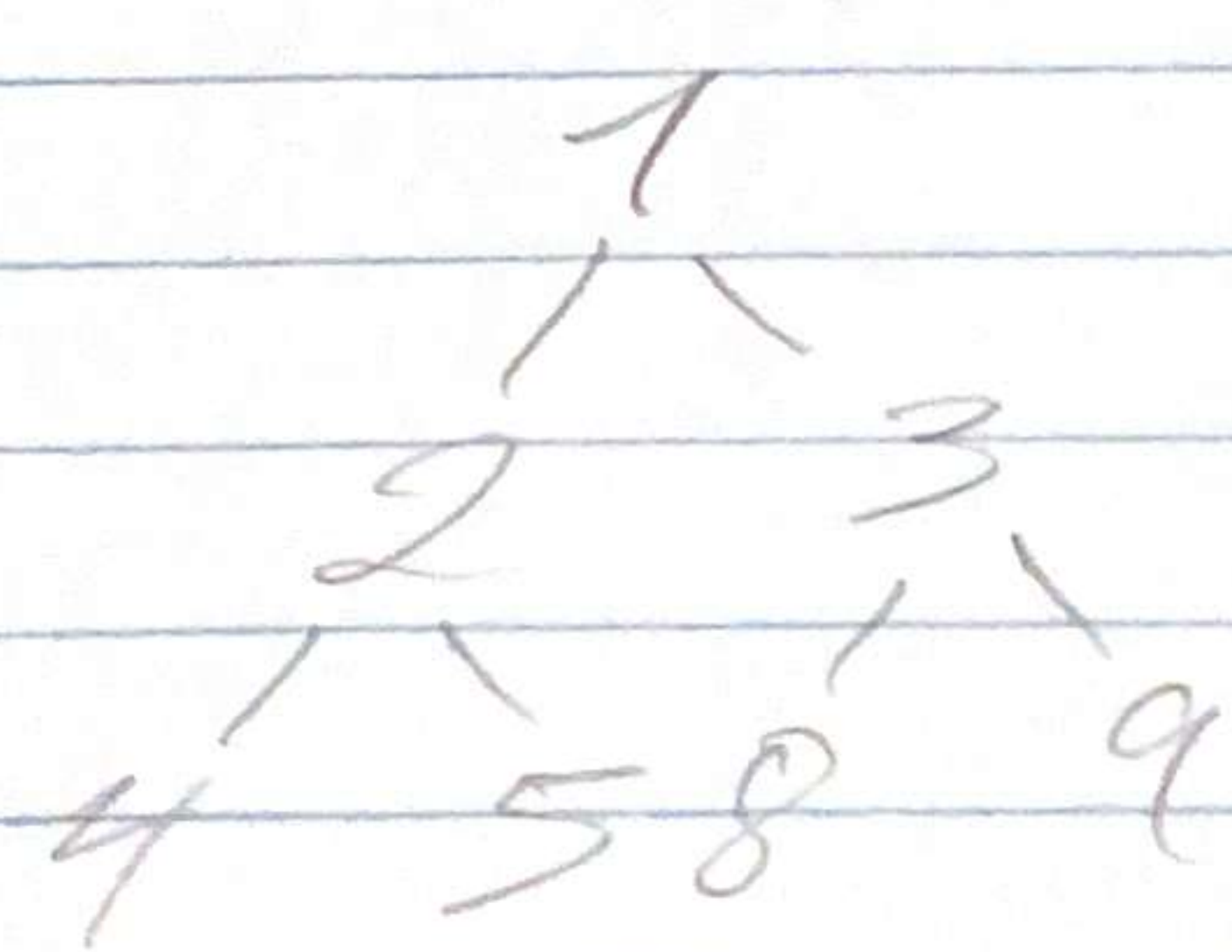
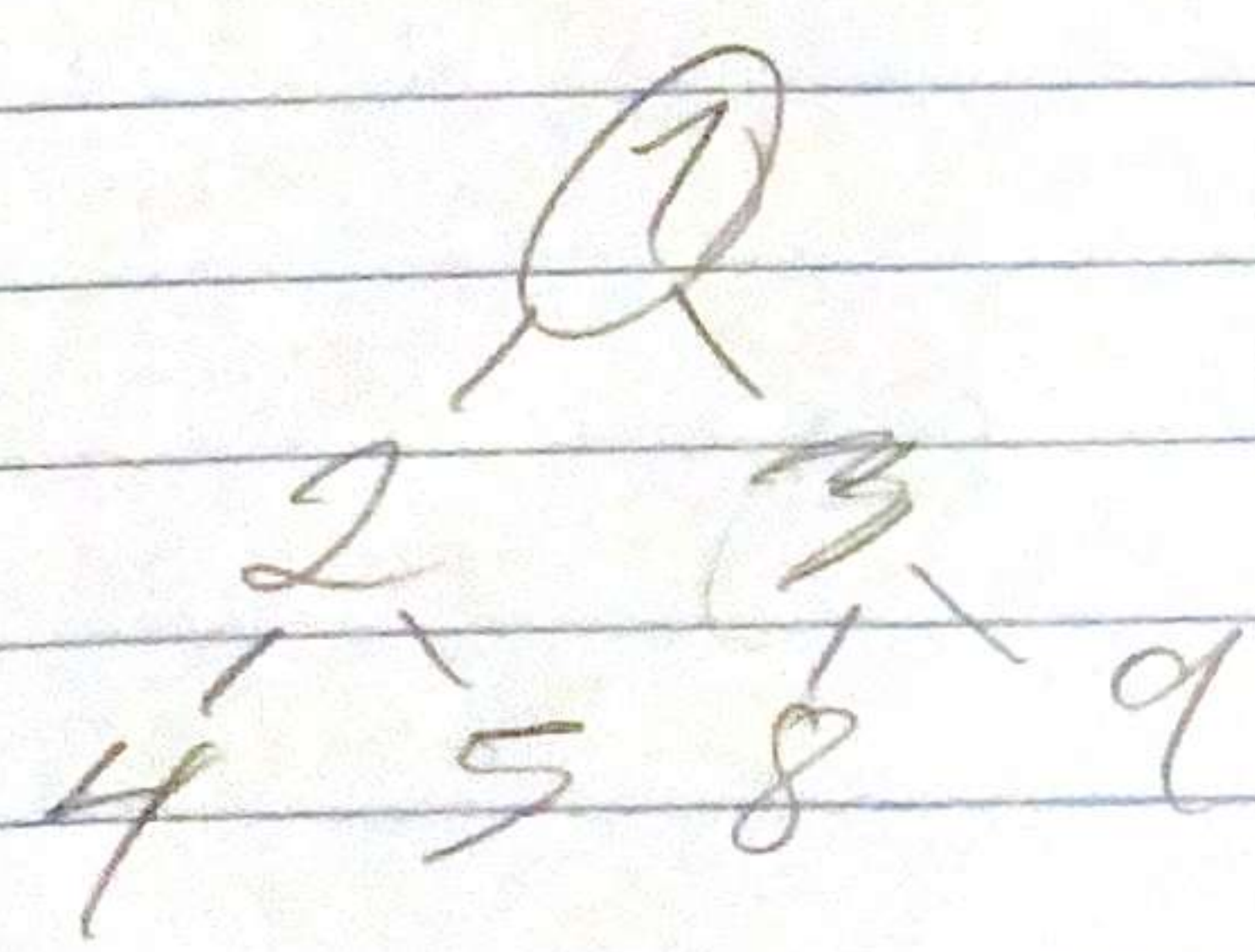
3, 2, 1 4, 5, 8, 9



2, 1 3, 4, 5, 8, 9

1, 2 3, 4, 5, 8, 9

1 2, 3, 4, 5, 8, 9

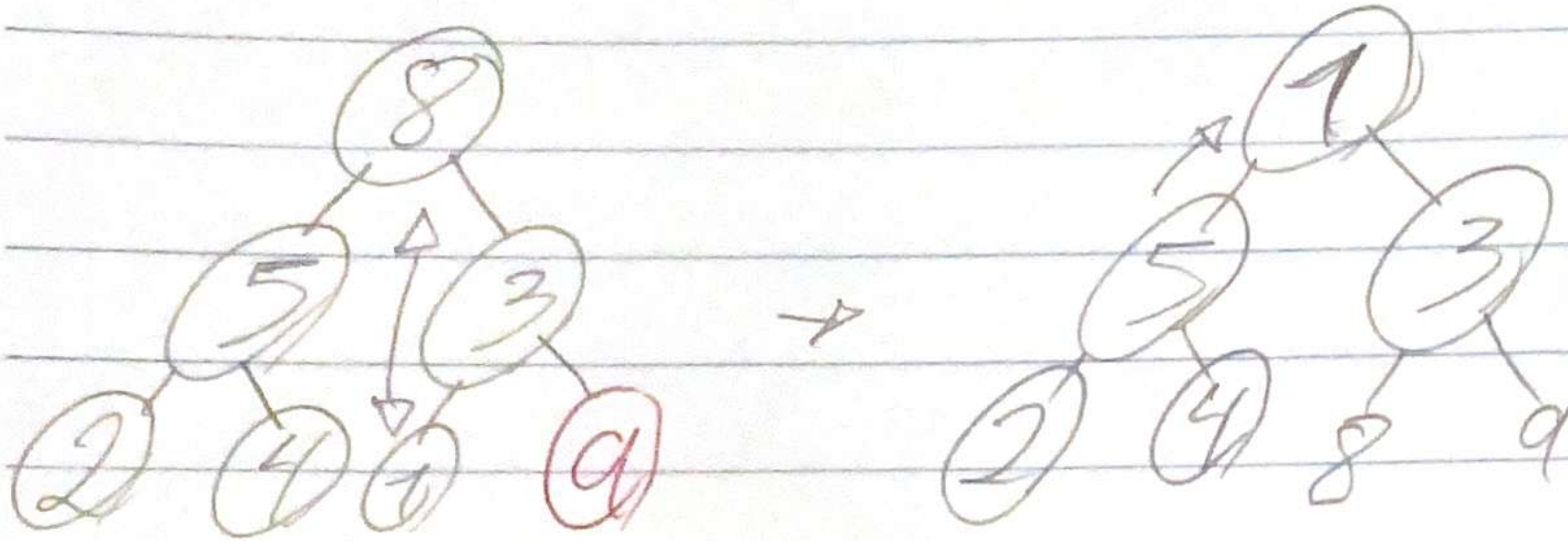


OK

1, 2, 3, 4, 5, 8, 9

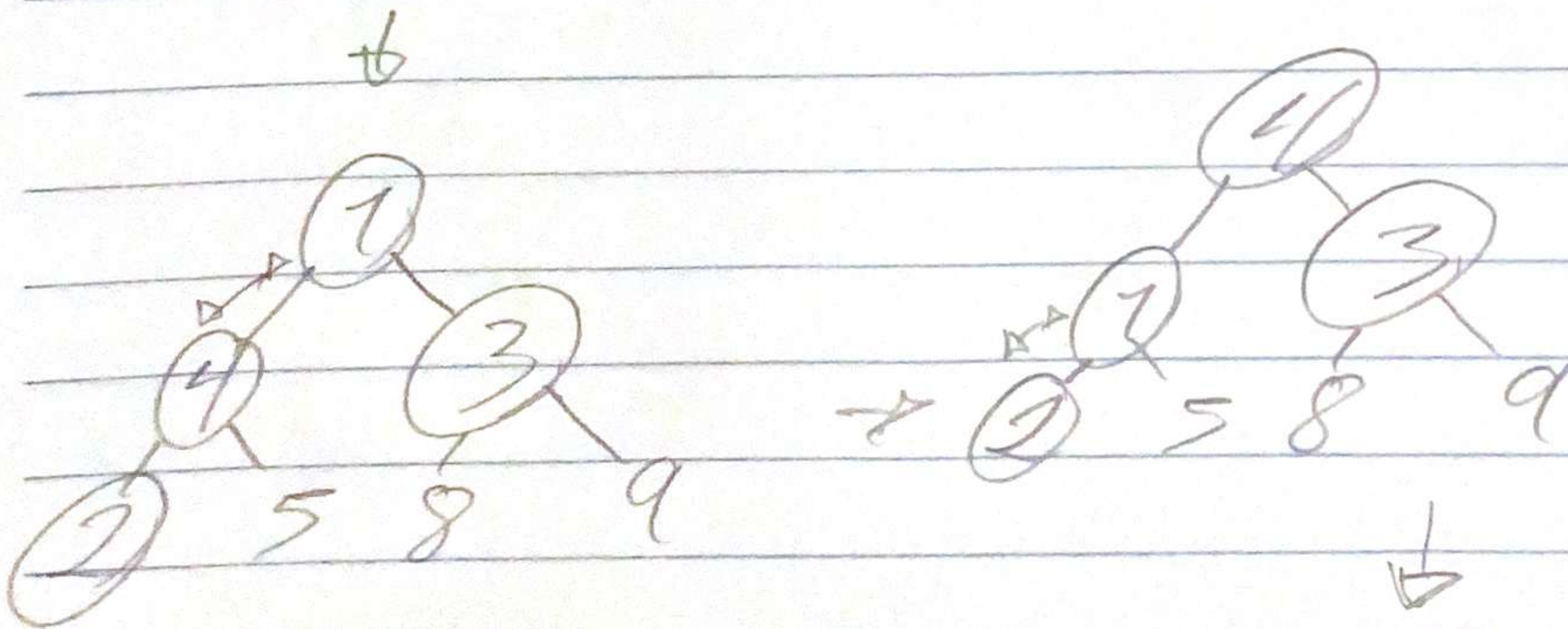
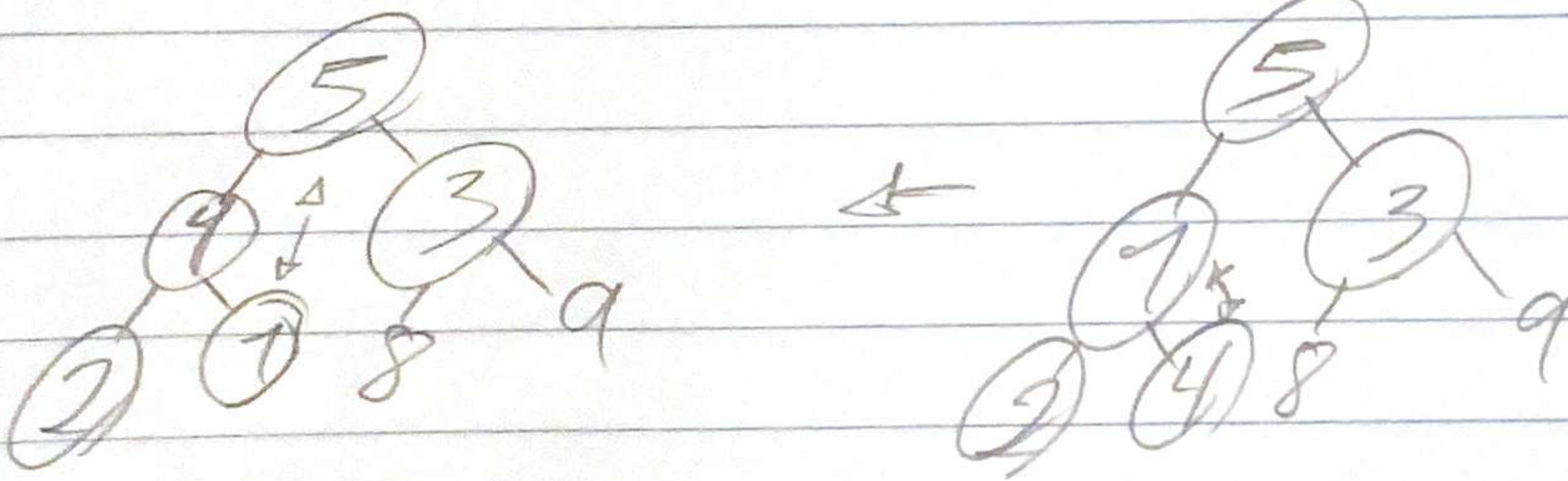


8 | 5 | 3 | 2 | 4 | 1 | 9



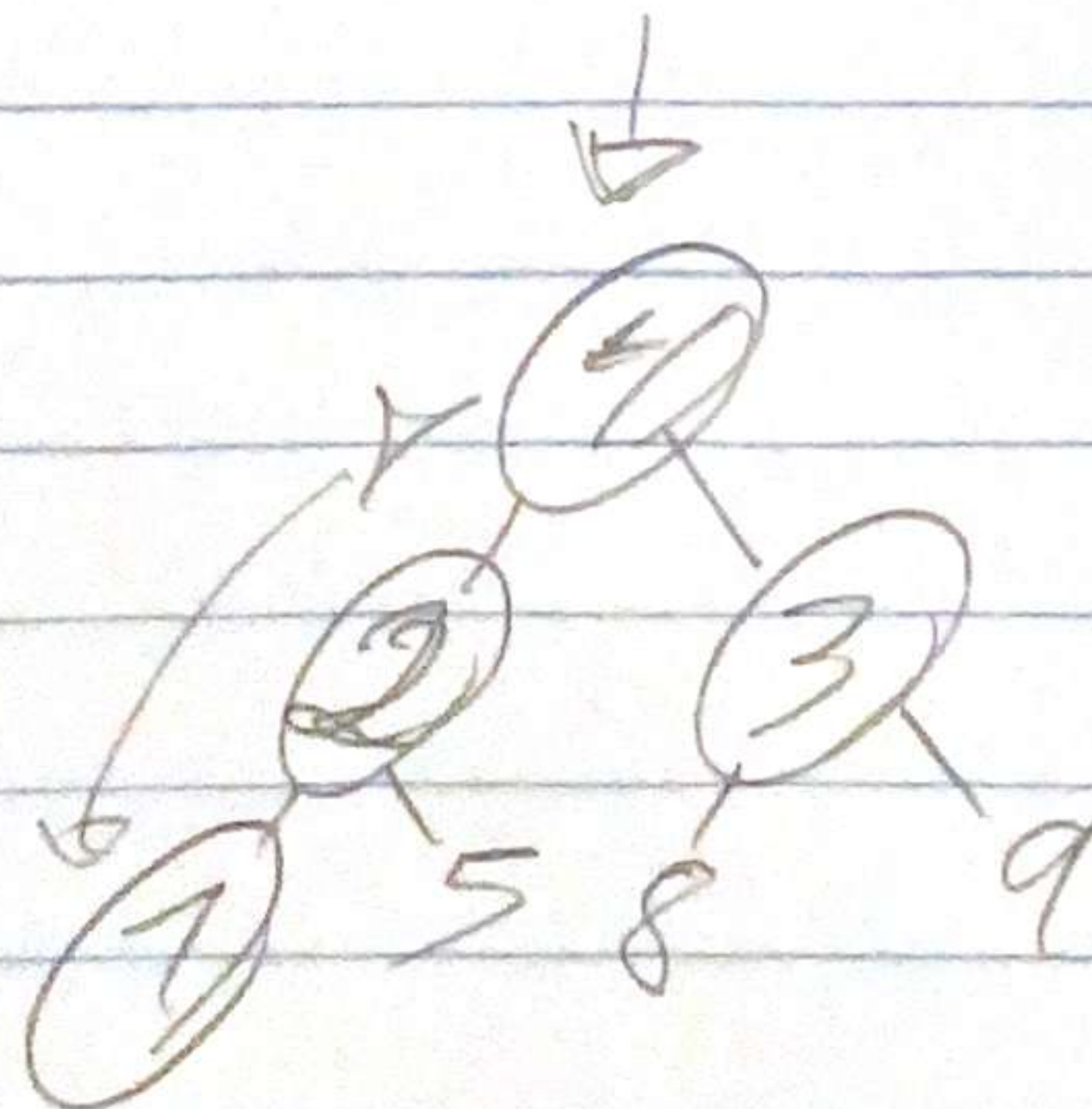
1, 5, 3, 2, 4 | 8, 9

5, 4, 3, 2, 1 | 8, 9 | 5, 1, 3, 2, 4 | 8, 9



1, 4, 3, 2 | 5, 8, 9

4 | 1 | 3 | 2 | 5, 8, 9

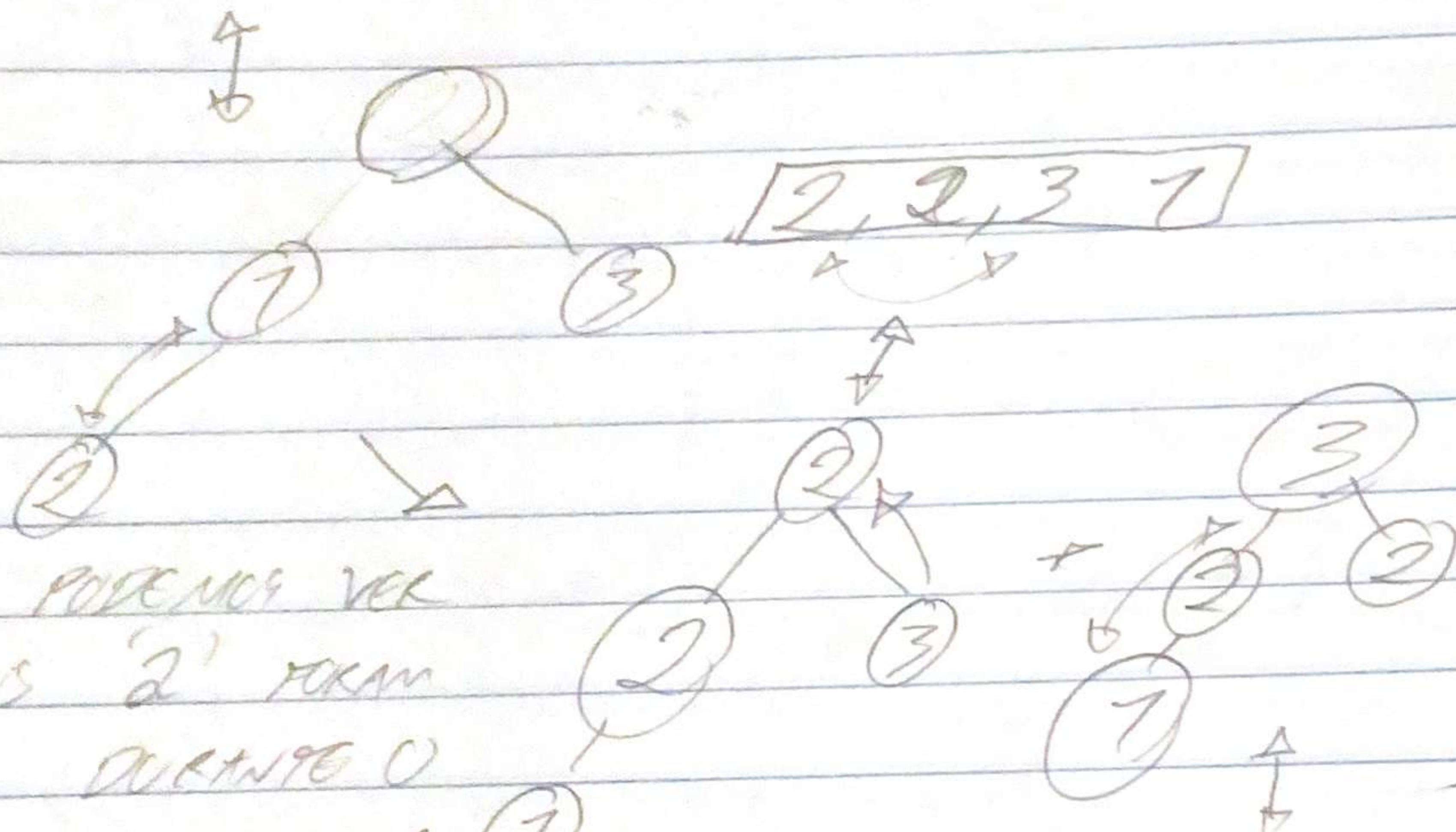


4, 2, 3, 1 | 5, 8, 9



QUESTÃO 24

CONSIDERANDO O SEGUINTE VETOR  
 $[2, 1, 3, 2]$



COMO PODEMOS VER  
 OS DOIS '2' FICAM  
 TROCADOS DURANTE O  
 PROCESSO ATÉ MOMENTO  
 MAS DE UMA VEZ  
 PROVANDO A SUA  
 INSTABILIDADE

