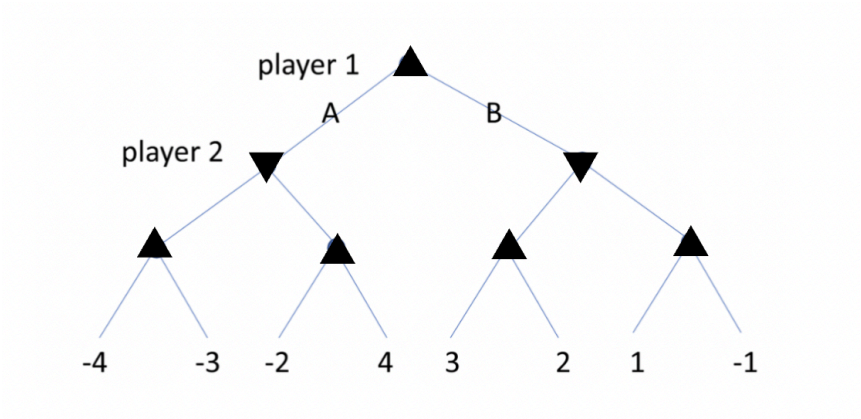
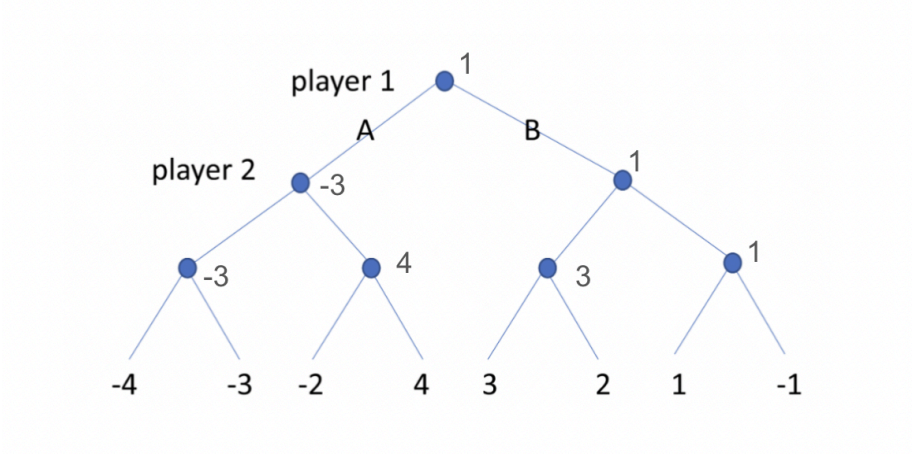
Problem 1

a.



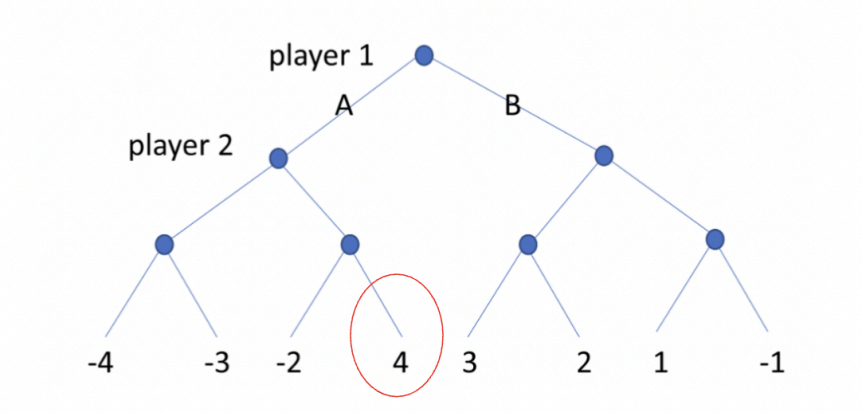
b.



c. B is more optimal for player 1 to take

d. Expected outcome is 1

e.



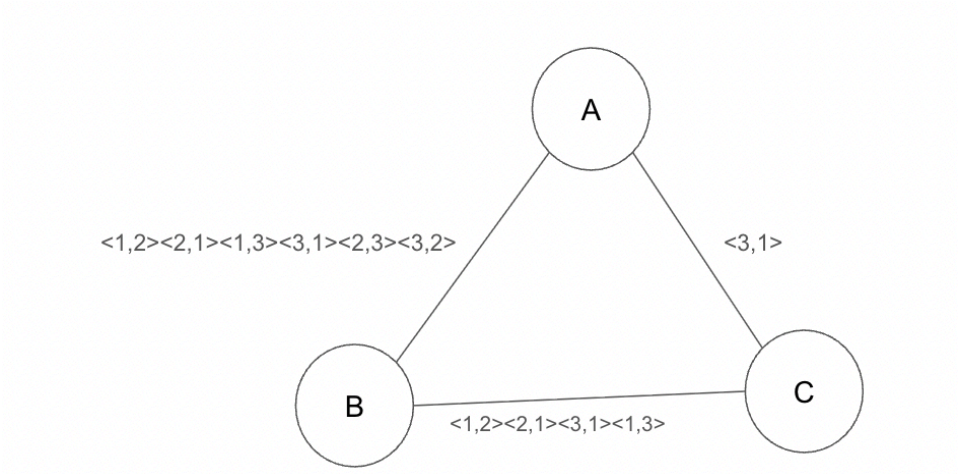
f. From left to right the leaves could be relabeled as: 3, 4, 2, 1, -1, -2, -3, -4

g. From left to right the leaves could be relabeled as: -4, 4, -3, 3, -2, 2, -1, 1

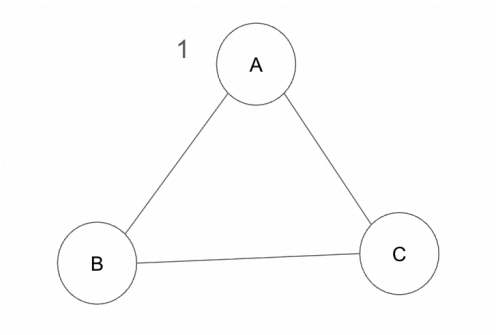
Problem 2

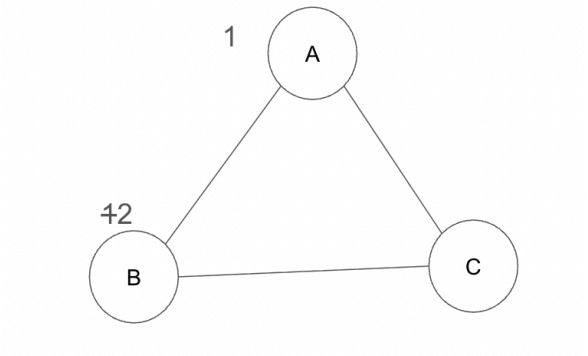
a.
vars = {A, B, C}
domains: dom(s) = {1, 2, 3}
constraints: A != B, B != C, A != C, A != C + 1, C != A + 1, C != 3

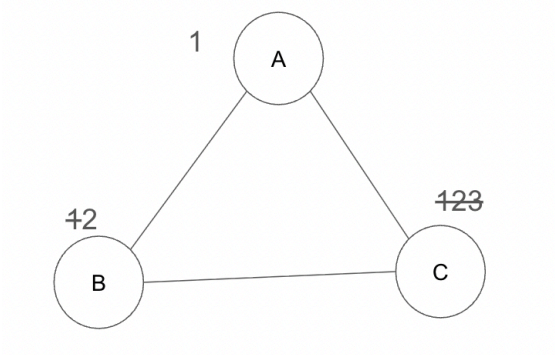
b.



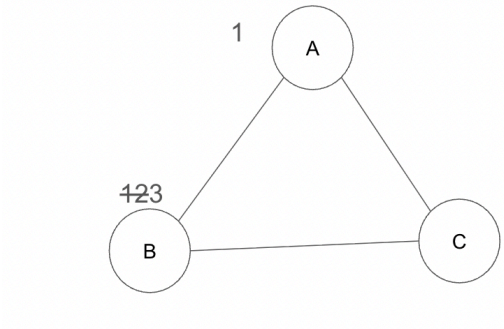
c.

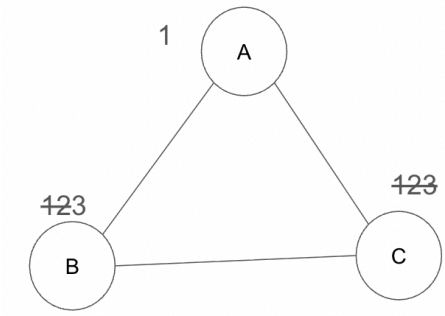




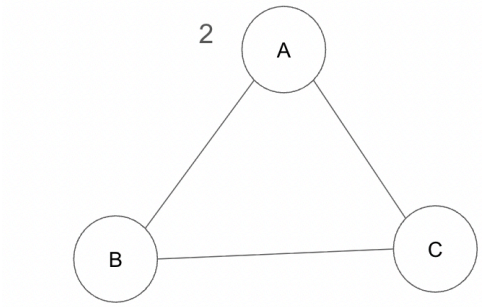


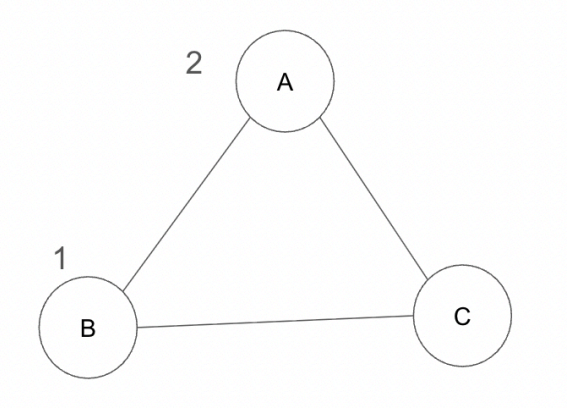
backtrack

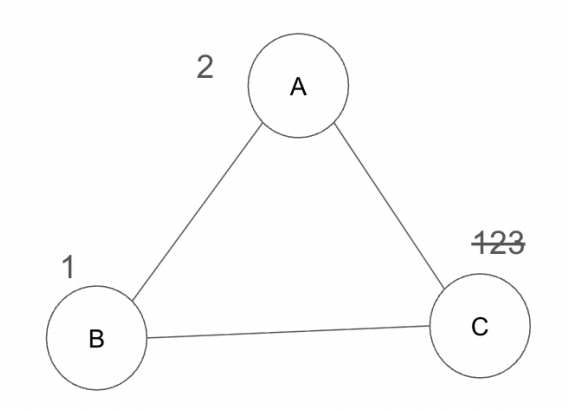




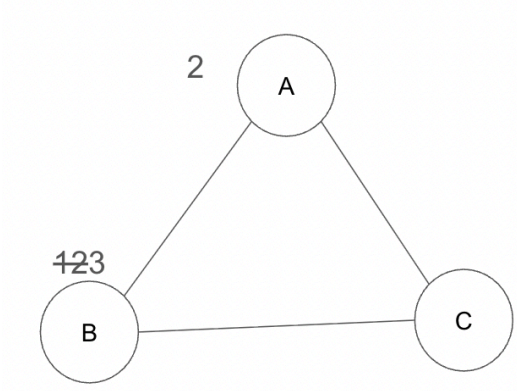
backtrack

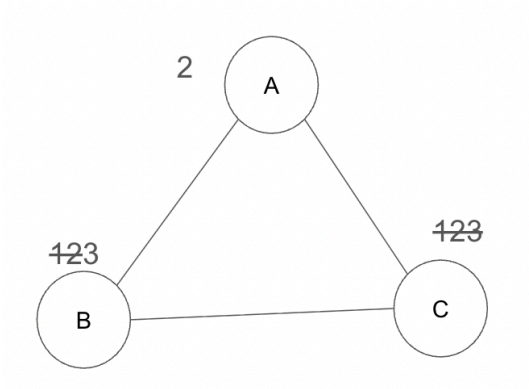




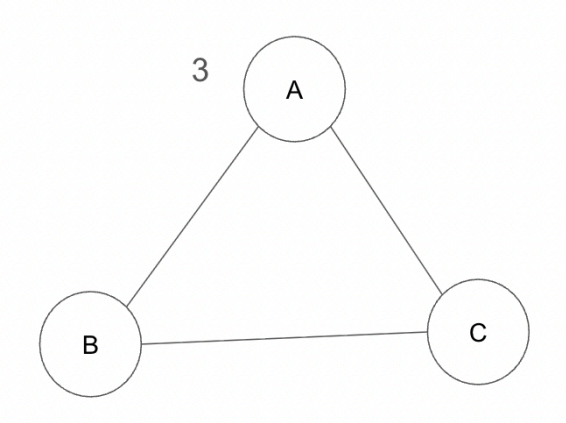


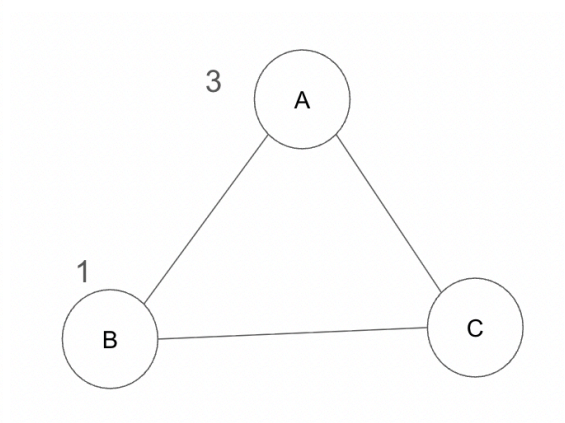
backtrack

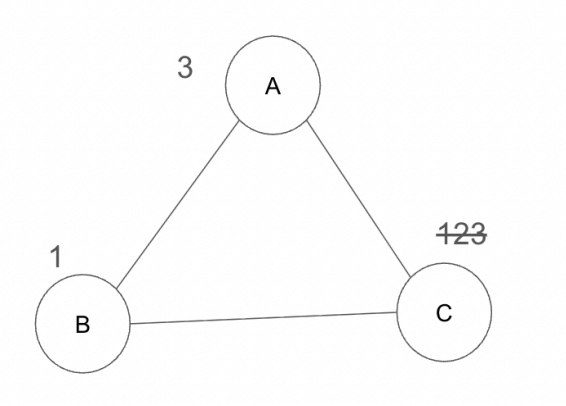




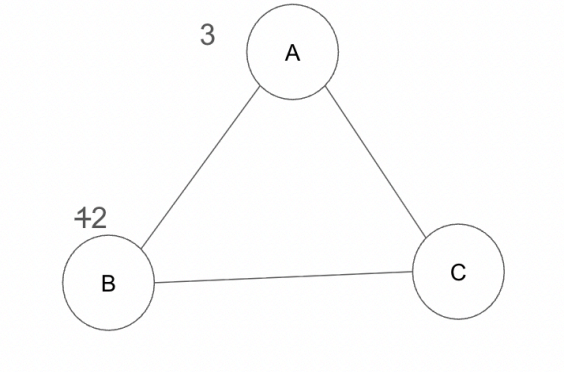
backtrack

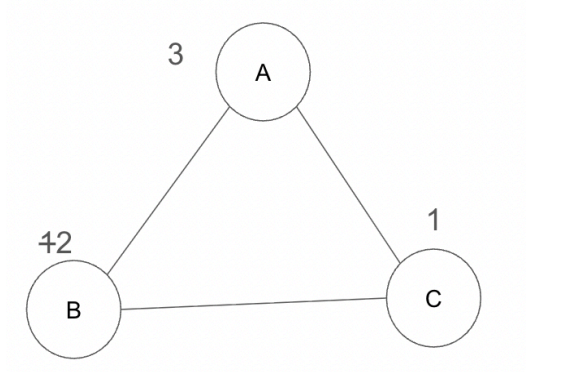






backtrack





d.