Q.2

Initial population = [[1,2,3,1,2,3,1], [2,1,3,2,3,1,1],
[3,3,1,2,2,1,3], [1,3,2,1,2,3,3],
[3,1,2,3,2,1], [2,3,1,1,3,2,2]]

fitness value = [410, 435, 400, 420, 430, 445]

Parent1 = [1,2,3,1,2,3,1], Parent2 = [2,1,3,2,3,1,1]

Crossover at point = 4:-

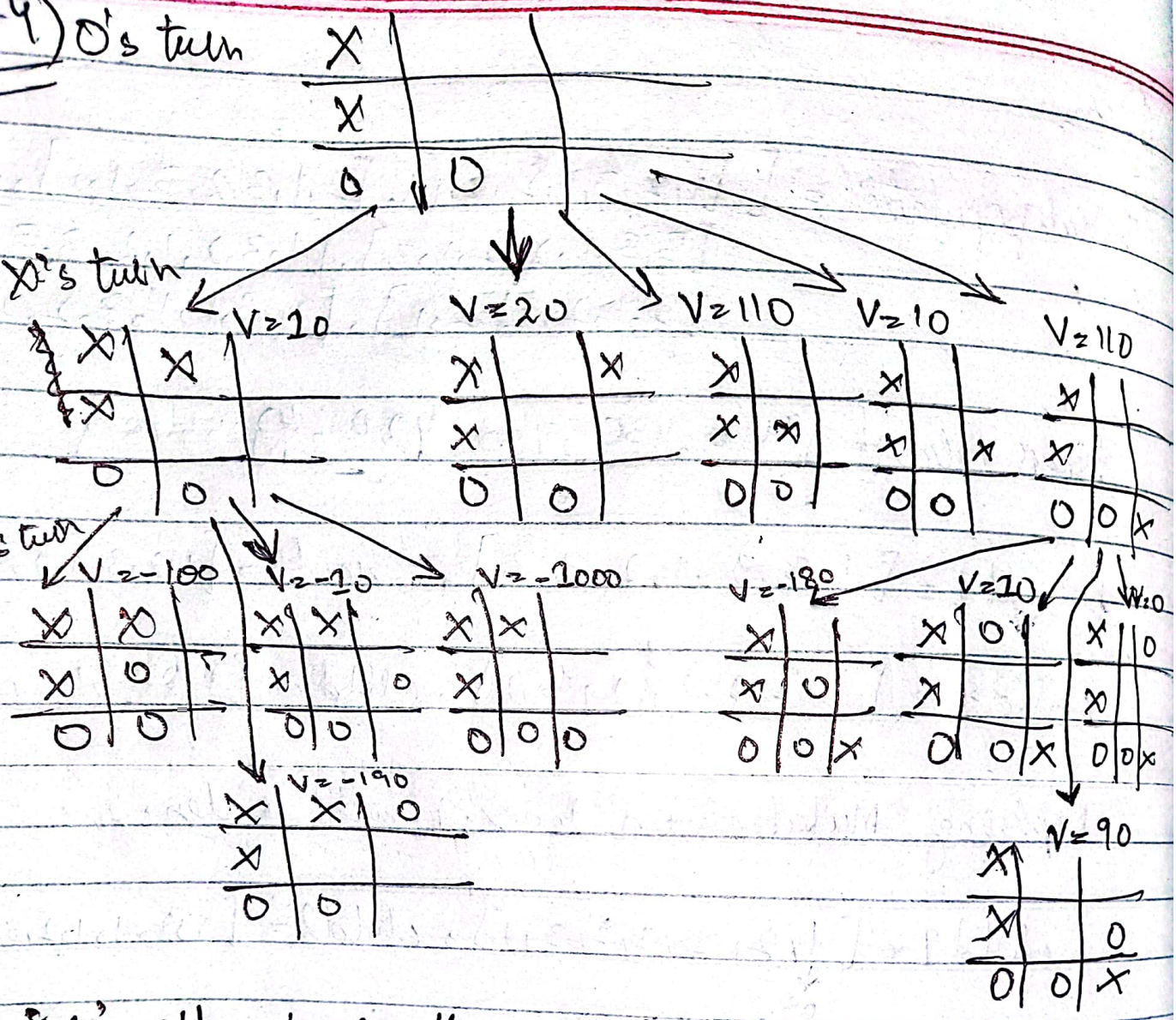
child 1 = [1,2,3,1,3,1,1], child 2 = [2,1,3,2,2,3,1]

mutation at idx1 = 0, idx2 = 0

child 1 = [2,2,3,1,3,1,1], child 2 = [1,1,3,2,2,3,1]

Add both childs in new population and do all steps again, until the generation becomes 50/xyz.

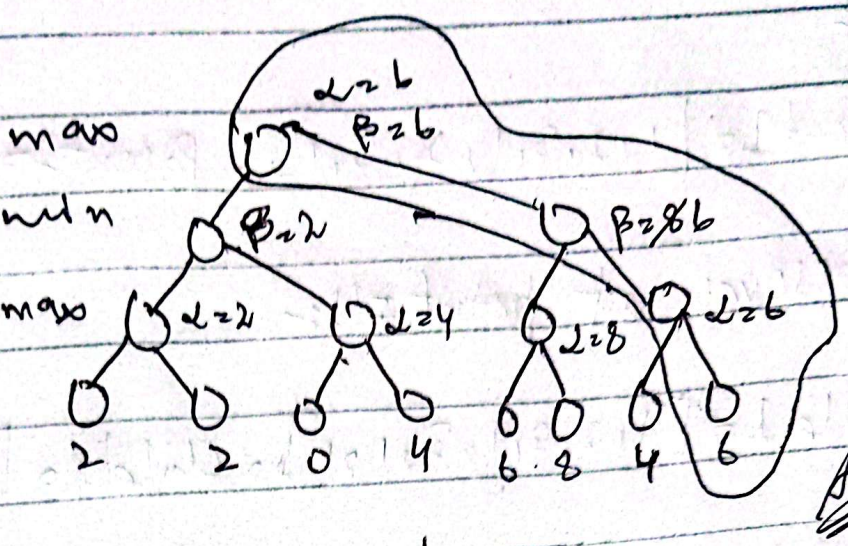
Q.4) O's turn



'X' will choose the rightmost block to maximize its utility.

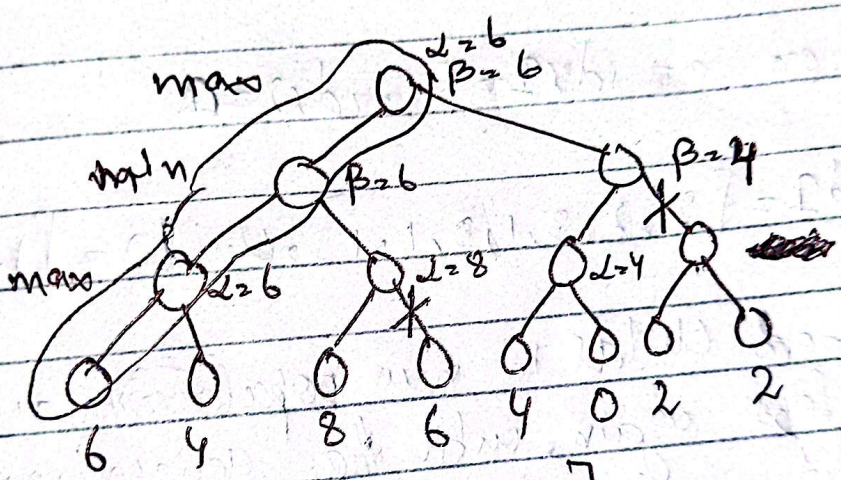
Q.5)

A)



Ans

B)



Pruned Values = [6, 2, 2]

Ans