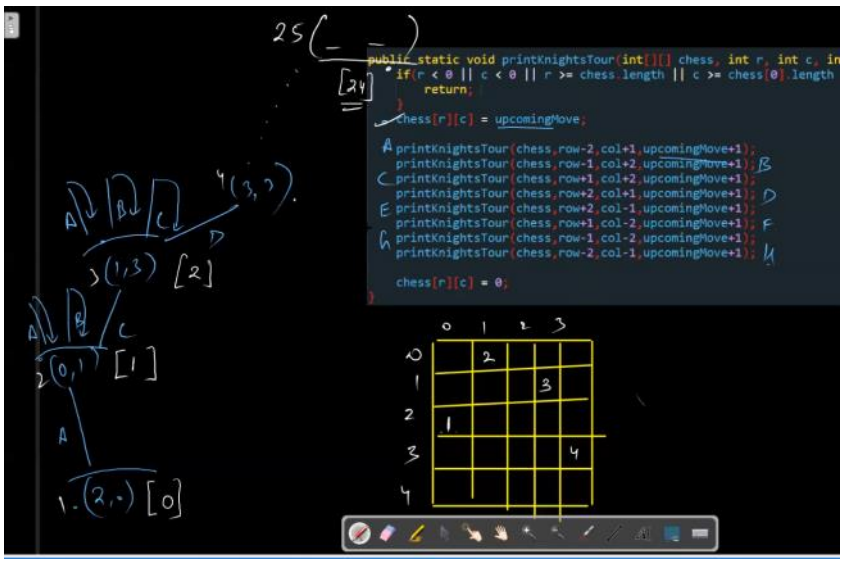
Knight Tour

05 February 2022
23:07

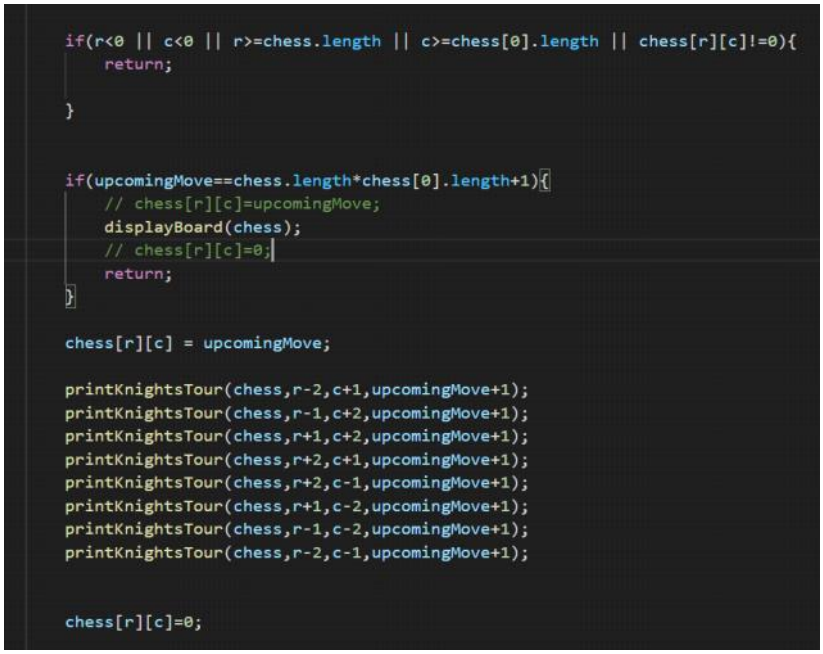
Why we are marking one move inside base case



Dekho jab hum 1st call lgane hai tb tak chess pe 0 block mark hote hai
Jab hum 2nd call lgane jaate haitab tak 1 element mark hota hai
To isi trh jab hum 25th call lgane jaayenge us time pe total 24 element marke honge aur 25th hume khud mark krna pdega

Ya fir aise smjh lo ki pahle base case check hota hai uske baad marking hoti hai
To jb upcomingMove ki value 1 thi base case check hua tab tak 0 block hi mark tha
Fir hum mark krte hai
Aur next call lgti hai upcomingMove ki value 2 ho hai base case check hota hai tab tak 1 block hi mark tha
To isi trh jab upcomingMove ki value 25 hogi tab tak sirf 24 blocks hi mark honge to bcha hua 1 hume khud mark krna pdega

Hum base case me hi +1 kyu nhi kr dete ?



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if(r<0 || c<0 || r>=chess.length || c>=chess[0].length || chess[r][c]!=0){
    return;

}


if(upcomingMove==chess.length*chess[0].length+1){
    // chess[r][c]=upcomingMove;
    displayBoard(chess);
    // chess[r][c]=0;
    return;
}

chess[r][c] = upcomingMove;

printKnightsTour(chess,r-2,c+1,upcomingMove+1);
printKnightsTour(chess,r-1,c+2,upcomingMove+1);
printKnightsTour(chess,r+1,c+2,upcomingMove+1);
printKnightsTour(chess,r+2,c+1,upcomingMove+1);
printKnightsTour(chess,r+2,c-1,upcomingMove+1);
printKnightsTour(chess,r+1,c-2,upcomingMove+1);
printKnightsTour(chess,r-1,c-2,upcomingMove+1);
printKnightsTour(chess,r-2,c-1,upcomingMove+1);


chess[r][c]=0;
```

Dekho agr hum base condition me hi +1 add kr dete hai to isse ye problem hogi

Jab upcomingMove ki value 25 hogi tab base case hit nhi hoga aur niche jaakr mark ho jaayega lekin problem suru hoti hai ab

Ab hoga ye ki upcomingMove bdakr hum call lgane ki koshish krnege lekin hmesha return hi hoga kyunki chess[r][c] !=0 kisi bhi halat me false nhi hogi kyunki saare blocks maarked hai aur kisi pe bhi 0 nhi hai

To ab saari 8 calls chalne ke baad jo 25th wala block mark hua tha wo firse unmark ho jaayega kyunki code ab backtrack krne lg jaayega that means ki hmara base case kabhi hit nhi hoga aur koi ans print nhi hoga