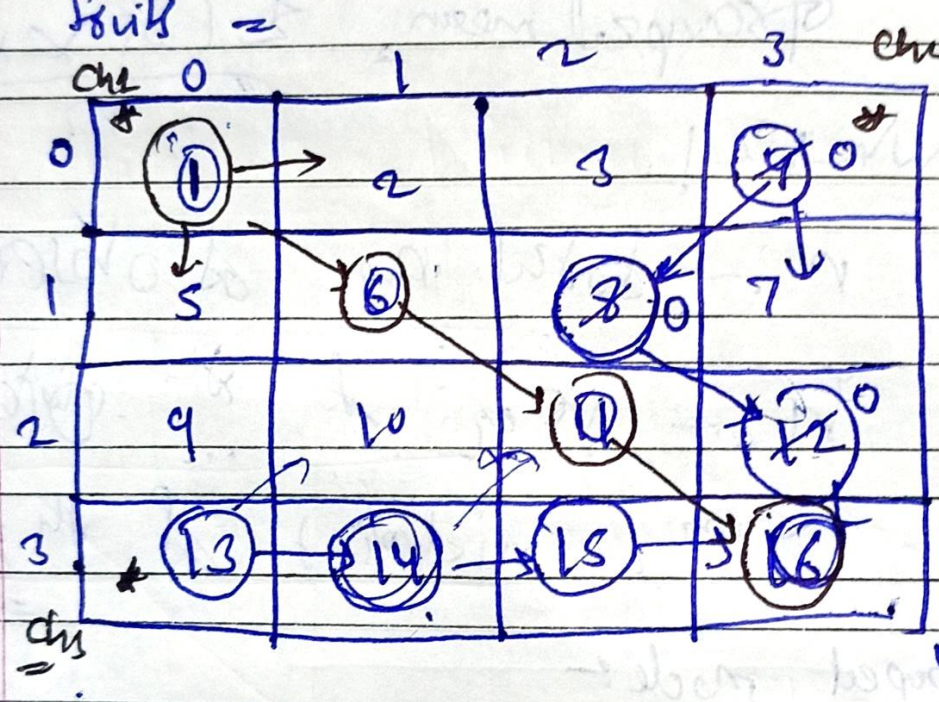
Find the Max. Number of Fruits Collected

* Example :-



n = 4

(n-1) moves

= 3 moves

Output = 1 + 6 + 11 + 16 + 4 + 8 + 12 + 13 + 14 + 15 = 100

Thought Process

(n-1) moves

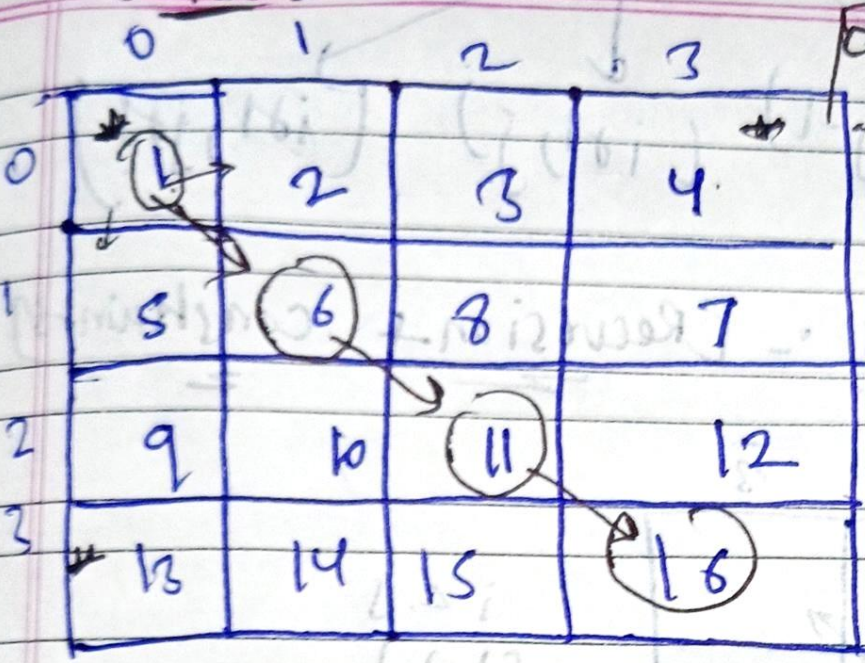
Famous

Page No.:

Date:

Recursion ?

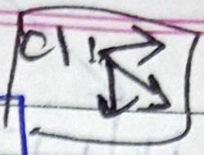
child 1:-



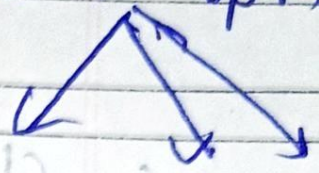
n=4

nxn

3 moves



child options



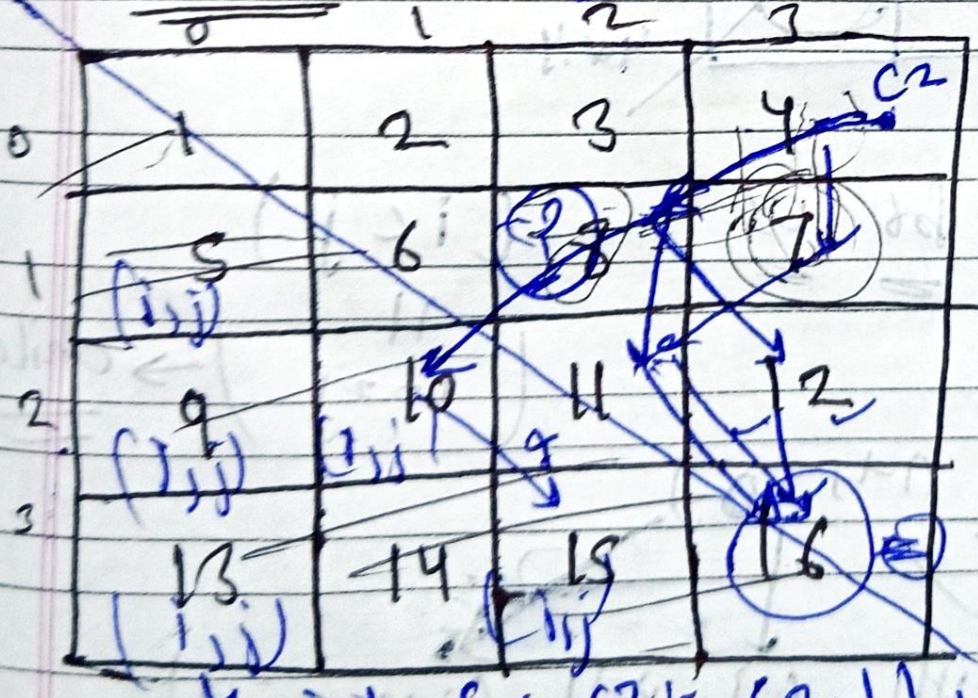
[options]

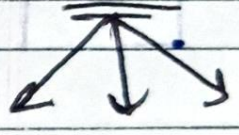
repetative work ↓ memoize

child 1 : Add the diagonal element.

child 2 :-

[Recursion + constraint]





child 2

(1,2)

i < j

n=4

(n-1) = 3

moves

(i > j)

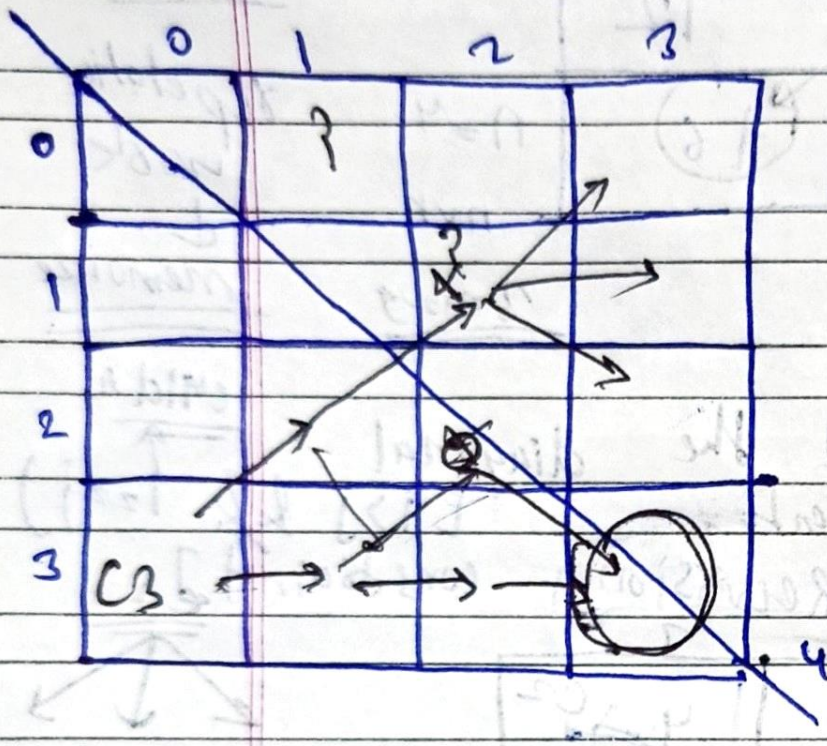
4x4

Constraint for C2:- (2,1), (3,2), (1,0), (2,0), (3,0), (3,1)

Child 2 $(0, \ldots, n-1)$

$(i+1, j-1)$ $(i+1, j)$ $(i+1, j+1)$

* Child 3 :- [Recursion + constraints]



$i < j$

(1, 2)

(0, 1) $n = 4$

moves = (n-1) = 3

Constraint for C3 :- $(i < j)$

$(i = j)$ → child 2

$(n+1, \ldots 0)$

$(i-1, \ldots j+1)$ $(i-1, j+1)$ $(i+1, \ldots j+1)$