Cost Based Tower of Hanoi

The standard Tower of Hanoi problem is explained here. In the standard problem, all the disc transactions are considered identical. Given a 3×3 matrix costs[][] containing the costs of transfer of disc between the rods where **costs[i][j]** stores the cost of transferring a disc from **rod i** to **rod j**. Cost of transfer between the same rod is **0**. Hence the diagonal elements of the cost matrix are all **0s**. The task is to print the minimum cost in which all the **N** discs are transferred from **rod 1** to **rod 3**.

**Examples:**

***Input:****N = 2  
costs = {  
{ 0, 1, 2},  
{ 2, 0, 1},  
{ 3, 2, 0}}****Output:****4*

*There are 2 discs, the smaller one is on the bigger one.  
Transfer the smaller disc from rod 1 to rod 2.  
Cost of this transfer is equal to 1  
Transfer the bigger disc to from rod 1 to rod 3.  
Cost of this transfer is equal to 2.  
Transfer the smaller disc to from rod 2 to rod 3.  
Cost of this transfer is equal to 1  
Total minimum cost is equal to 4.*

***Input:****N = 3  
costs = {  
{ 0, 1, 2},  
{ 2, 0, 1},  
{ 3, 2, 0}}****Output:****12*