

Explanation_PRJ4

1. Goal

- Write a function that provides an efficient look up of whether the user is in a group.

2. Code Design

A. "is_user_in_group" , recursive function

- To check if the user exists in a group or nested groups's group, I designed the recursive function that takes user and group parameters.

3. Efficiency

A. Time Efficiency

- i. # of users for each group in nested group = n , the number of group = m
→ $O(n*m)$

B. Space Efficiency

- i. → $O(n*m)$