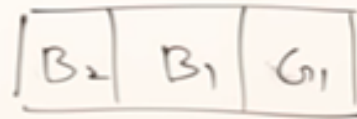# Backtracking

- Brute Force Approach

- Consider a scenario for arranging 2 boys and 1 girl in 3 chairs
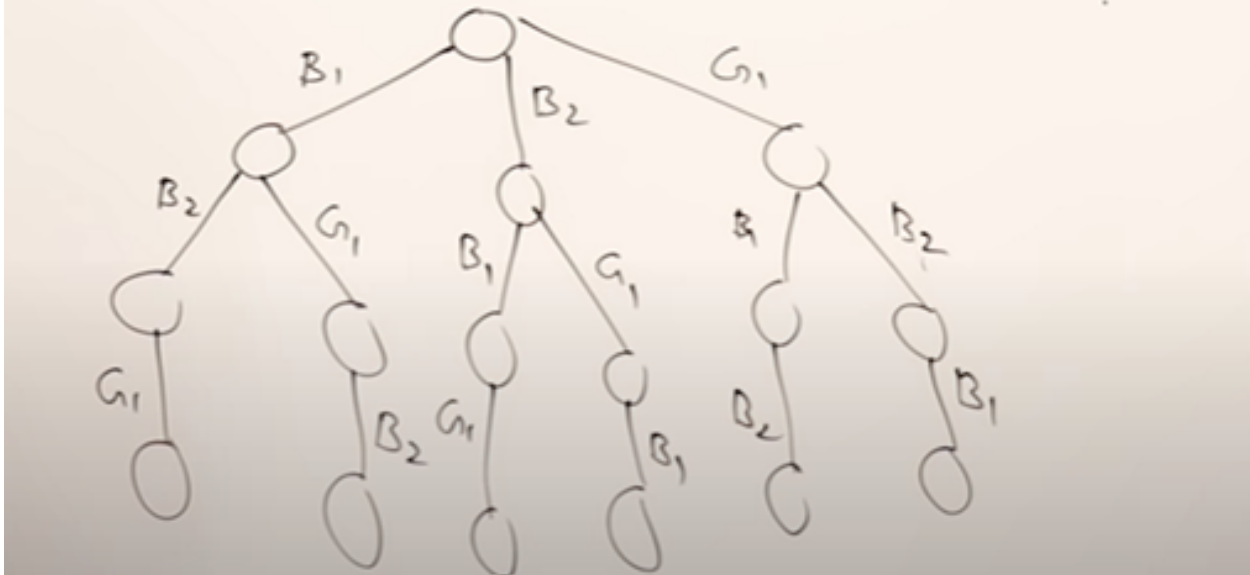
Brute force Approach

$B_1 \ B_2 \ G_1$
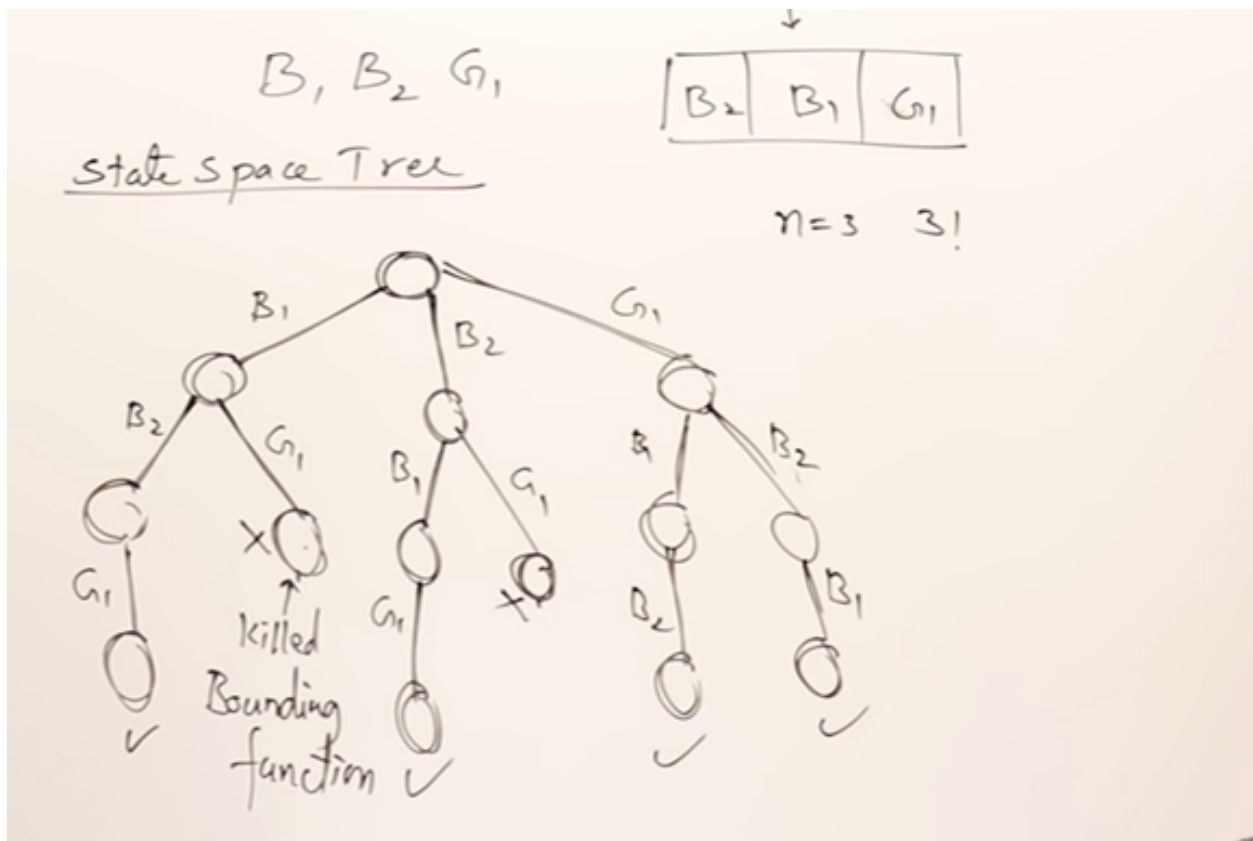
State Space Tree

B_2	B_1	G_1

$n = 3 \quad 3!$

Now consider a scenario where girls should not be given second position in the seating arrangement.

- Backtracking is a recursion with a twist
- Remove those solutions which are not required

💡 Follows **DFS**

Branch and Bound

- Similar to Backtracking
- Follows **BFS**

State Space Tree

$n = 3$ $3!$

YT :

https://www.youtube.com/watch?v=DKCbsiDBN6c