DozenDreams Player Combination Logic and Counts

Application Logic Summary:

- Total players in pool: 30
- User selects up to 11 players.
- User may select Captain (C) and/or Vice-Captain (VC).
- Rules for max selected players:
  * Both C & VC selected: max 9 players
  * Only C or only VC selected: max 10 players
  * Neither C nor VC selected: max 11 players
- Final teams always have 11 players: add from remaining pool (30 - selected)
- If both C & VC selected, they are fixed in the team.
- If only one or none selected, all valid C & VC pairs are assigned to generate combinations.
- Combination counts capped at 10,000 base combinations to limit computation.

Combination Calculation Details:

For each case, the number of ways to pick missing players (R = 11 - selected players S) from remaining (N = 30 - S) is C(N, R).

- Case 1: Both C & VC selected -> final teams = C(N, R)
- Case 2: Only one of C or VC selected -> final teams = C(N, R) * 110 (all possible C & VC pairs)
- Case 3: Neither selected -> final teams = C(N, R) * 110

Note: 110 comes from 11 players choosing captain and vice-captain positions (ordered pairs).

Selected Players (S)	Missing Players (R = 11 − S)	Remaining Pool (N = 30 − S)	Combinations C(N, R)	Combinations (Both C & VC)	Combinations (
0	11	30	54.6M (capped 10.0K)	10.0K	1.1M
1	10	29	20.0M (capped 10.0K)	10.0K	1.1M
2	9	28	6.9M (capped 10.0K)	10.0K	1.1M
3	8	27	2.2M (capped 10.0K)	10.0K	1.1M
4	7	26	657.8K (capped 10.0K)	10.0K	1.1M
5	6	25	177.1K (capped 10.0K)	10.0K	1.1M
6	5	24	42.5K (capped 10.0K)	10.0K	1.1M
7	4	23	8.9K (capped 8.9K)	8.9K	974.0K
8	3	22	1.5K (capped 1.5K)	1.5K	169.4K
9	2	21	210 (capped 210)	210	23.1K
10	1	20	20 (capped 20)	20	2.2K
11	0	19	1 (capped 1)	1	110

Note: Base combinations are capped at 10,000 to limit computation time. Final combinations for cases with only one or no captain/vice-captain selected multiply base combos by 110, representing all valid captain and vice-captain assignments in the 11-player team.