

Question → **Return count of people whose grandparent is alive. Name of the table is “people”**

Name of person - C1	Name of Parent - C2
A	X
B	Y
X	X'
Y	Y'
X'	X''
Y'	Y''

Solution

Select count(distinct [child.name](#)) as count_with_alive_grandparent

From people as child

Join people as parent on **child.parent_name = parent.name**

Join people as grandparent on **parent.parent_name = [grandparent.name](#)**

Step 1: JOINS (Identify relationships)

1. Reg. Child → Parent: Child is joined to parent (so every child gets their parent info)
2. Reg. Parent → Grandparent: Parent is joined to grandparent

Step 2: How it works in the example (Only 2 Joins are needed)

1. Start with A (child)
2. Join to X (parent of A)
3. Join to X' (grandparent of A)
4. Check if X' is alive → if yes, count A.

Do the same for B, X, Y

Output →

8 entries after JOIN

- **Hierarchy for A:** A → X → X' → X''
- **Hierarchy for B:** B → Y → Y' → Y''

- **Hierarchy for X:** $X \rightarrow X' \rightarrow X''$
- **Hierarchy for Y:** $Y \rightarrow Y' \rightarrow Y''$

Assumption: if a grandparent's record exists, then the grandparent is alive

Output $\rightarrow 4$