

Q1) Given a table TBL with the following schema

ID (INT32)	Parent_ID (INT32)
31	3
32	3
33	4
34	31
35	32
3	NULL
4	NULL

Write a query which will produce a result like this {id, root\_parent } where root\_parent != NULL  
And another query to produce output {id, level} where level shows the maximum level of depth of id.

Q2) A dataset contains dates in the following formats

MM/DD/YYYY or M/D/YYYY or M/D/YY

where M for say month of May is 5 and MM is 05, similar for D, DD, YY ....

Translate this into format YYYY-MM-DD ---- Use GoogleSheet RegEX functions to achieve the same

Q3) We have a table Acct (id, name) and a table Contact (id, acct\_id, name, email, role)

An account can have multiple contacts.

The role can be one or more of { Admin, Sales\_Rep, Support\_Person } as a delimited string “,” in any order e.g. “Admin; Support\_Person” or “Sales\_Rep, Admin”

- Write a query to find all such accts that do not have any contact with Admin role
- (hint: this may need a nested query or subquery)

Q4) Describe some advantages of Spanner over other RDBMS

Q5) Describe the differences between No-SQL and traditional RDBMS databases.

Q6) Given the table below, find Number of orders shipped in each year that are out of balance compared to line items (based on the amounts).

**ORDER**

Order\_id  
customer\_id  
Order\_amount  
order\_status ('IN-PROCESS'/'COMPLETED'/'CANCELLED')  
order\_date  
shipment\_date  
**ORDER\_LINE\_ITEM**  
order\_id  
Order\_line\_item\_id  
line\_item\_description  
Line\_item\_amount

Q7) Given two tables:

Table 1: Projects (Project ID, Manager, Project Name, Status)

Table 2: Projects Risks (Project ID, Risk Name, Date)

Write a query that lists each manager with their latest risk per project.

Q8) Given a table with 4 cols (Emp\_id, name, date\_of\_joining, dept\_id) write a query to show the number of employees in each department that have more than 50 employees sorted desc on strength of employees.

- a) Generate a serial number for this result set as part of the query
- b) The records now have a repeated field called Project, Role where both are enums. Enhance the query to find only those departments where number of managers is more than 10.