create database Cloud

use Cloud

CREATE TABLE cloud\_usage(

user\_id VARCHAR(20),

resource\_type VARCHAR(20),

usage\_hours FLOAT,

cost FLOAT,

usage\_date DATE

);

INSERT INTO cloud\_usage VALUES

('U001', 'compute', 120.5, 2400, '2025-07-01'),

('U002', 'storage', 300.0, 1500, '2025-07-02'),

('U003', 'network', 50.0, 800, '2025-07-03'),

('U001', 'storage', 200.0, 1000, '2025-07-04'),

('U004', 'compute', 400.0, 5000, '2025-07-05'),

('U002', 'network', 100.0, 1200, '2025-07-06'),

('U005', 'compute', 50.0, 600, '2025-07-07'),

('U003', 'storage', 150.0, 750, '2025-07-08'),

('U004', 'network', 80.0, 900, '2025-07-09'),

('U001', 'compute', 100.0, 2000, '2025-07-10');

select \* from cloud\_usage

--Top 3 Users by Total Cost

SELECT top 3 user\_id, SUM(cost) AS total\_spent

FROM cloud\_usage

GROUP BY user\_id

ORDER BY total\_spent DESC

--Total Cost and average usage of each Resource Type

SELECT resource\_type, SUM(cost) AS total\_spent, AVG(usage\_hours) AS avg\_usage

FROM cloud\_usage

GROUP BY resource\_type

ORDER BY total\_spent DESC

--Users Spending Over ₹3,000

SELECT user\_id, SUM(cost) AS total\_spent

FROM cloud\_usage

GROUP BY user\_id

HAVING SUM(cost) > 3000;

--Users with High Variability in Cost

SELECT

user\_id, MAX(cost) as Max\_cost, MIN(cost) as Min\_cost,

MAX(cost) - MIN(cost) AS cost\_range

FROM cloud\_usage

GROUP BY user\_id

HAVING MAX(cost) - MIN(cost) > 2000;

--Users with More Than One Resource Type Used

SELECT

user\_id,

COUNT(DISTINCT resource\_type) AS resource\_variety

FROM cloud\_usage

GROUP BY user\_id

HAVING COUNT(DISTINCT resource\_type) > 1;

--Detecting Idle Users

SELECT

user\_id,

COUNT(\*) AS record\_count,

SUM(usage\_hours) AS total\_usage

FROM cloud\_usage

GROUP BY user\_id

HAVING SUM(usage\_hours) < 100;

--count of the resource used by each user

SELECT

user\_id,

COUNT(\*) AS total\_entries,

COUNT(cost) AS cost\_entries

FROM cloud\_usage

GROUP BY user\_id;