1. Top 5 most expensive projects by country

SELECT agencies.countryName, funding.projectID, funding.agencyName, funding.cost

FROM funding LEFT JOIN agencies ON funding.agencyName = agencies.agencyName

GROUP BY agencies.countryName, funding.projectID, funding.agencyName

ORDER BY funding.cost DESC

LIMIT 5;

1. Top 5 least expensive projects
2. Top 5 with most flight time astronauts
3. Countries with the most space missions
4. Which country had the most failed/success space missions? Report the top 5
5. Which country had the least space missions? Report the top 5
6. Search for an astronaut given a string- search first and last name, report found first name, last name

SELECT austronaut.firstname, austronaut.lastname FROM austronaut WHERE austronaut.firstname LIKE ? OR austronaut.lastname LIKE ?

1. Average funding for each space missions?
2. The launch month with the highest successful space missions? COMPLETE

WITH successMissions AS(

SELECT projects.projectID, projects.missionStatus

FROM projects

WHERE projects.missionStatus = 'success'

)

SELECT TOP 1 projects.launchMonth , COUNT(projects.launchMonth) AS successfulMissions

FROM projects

WHERE projects.projectID IN (

SELECT projectID FROM successMissions

)

GROUP BY projects.launchMonth

ORDER BY successfulMissions DESC

--reutrns launchMonth, successfulMissions

1. The year with most space mission?
2. Does higher funding mean higher chance of getting success?
3. Astronauts who participated in the most projects, and who have not been in a failed mission top 5 – probably wont work; can’t quite link astronauts to projects
4. Find the list of countries that do not have an astronaut that has been in a space mission
5. The planet that has been visited by an astronaut more than once
6. Based on the average funding amount, report the number of projects that failed given that they are below the average, and the number of projects that succeeded given that they are below average -- does not work for above average as funding.cost is null; only for complete failure

WITH avgCost AS(

SELECT COUNT(funding.projectId) AS totalFundedProjects, AVG(funding.cost) AS averageCost

FROM funding

),

belowAvg AS(

SELECT funding.projectID, funding.cost FROM funding

WHERE funding.cost < (SELECT averageCost FROM avgCost)

),

aboveAvg AS(

SELECT funding.projectID, funding,cost FROM funding

WHERE funding.cost > (SELECT averageCost from avgCost)

)

successMissions AS(

SELECT projects.projectID, funding.cost FROM projects LEFT JOIN funding ON projects.projectID = funding.projectId

WHERE projects.missionStatus = 'success'

),

numSuccessBelow AS(

SELECT averageCost, totalFundedProjects, COUNT(funding.projectID) as numSuccessBelow

FROM funding CROSS JOIN avgCost

WHERE funding.projectID IN (SELECT projectID FROM belowAvg)

AND funding.projectID IN (SELECT projectID FROM successMissions)

GROUP BY averageCost , totalFundedProjects

),

numFailedBelow AS(

SELECT averageCost, COUNT(funding.projectID) as numFailedBelow

FROM funding CROSS JOIN avgCost

WHERE funding.projectID IN (SELECT projectID FROM belowAvg)

AND funding.projectID NOT IN (SELECT projectID FROM successMissions)

GROUP BY averageCost

)

numSuccessAbove

SELECT averageCost, totalFundedProjects, COUNT(funding.projectID) as numSuccessAbove

FROM funding CROSS JOIN avgCost

WHERE funding.projectID IN (SELECT projectID FROM aboveAvg)

AND funding.projectID IN (SELECT projectID FROM successMissions)

GROUP BY averageCost , totalFundedProjects

),

numFailedAbove AS(

SELECT averageCost, COUNT(funding.projectID) as numFailedAbove

FROM funding CROSS JOIN avgCost

WHERE funding.projectID IN (SELECT projectID FROM aboveAvg)

AND funding.projectID NOT IN (SELECT projectID FROM successMissions)

GROUP BY averageCost

)

--reutrns averageCost, numSuccessBelow, numFailedBelow, totalFundedProjects

SELECT numSuccessBelow.averageCost, numSuccessBelow, numFailedBelow, numSuccessAbove, numFailedAbove totalFundedProjects

FROM numSuccessBelow LEFT JOIN numFailedBelow ON

numSuccessBelow.averageCost = numFailedBelow.averageCost LEFT JOIN numSuccessAbove ON numSuccessAbove.averageCost = numFailedBelow.averageCost LEFT JOIN numFailedAbove ON numSuccessAbove.averageCost = numFailedAbove.averageCost

1. Is there any astronaut from [this country] been to [this planet]
2. Report the count of astronauts that have been to a planet
3. Which country made the most space mission in [this year]? Top 5
4. Average number of astronauts per country
5. The most popular/common first name/last name for astronaut
6. All astronaut who has never been in a failed mission
7. Astronaut who has been in a failed mission more than 2
8. All the missions between [this year] and [this year] from [this country]

select projectID

from projects join funding on

join agency on

join country on

where year between ? and ?

and countryName =?

1. List of year and spacecraft used by projects with specific manufacturer
2. List of agencies in X country that have funded projects over X amount

select agencyName

from funding join agencies on funding.agencyName = agencies. agencyName

join country on agencies.countryName = country. countryName

where countryName=? and spacecraft.funding>?

1. Top 3 missions in each mission type with the max cost
2. Report each mission type and the maximum cost for each mission

select missionType, max(cost) as max\_cost

from spacecraft

join astronaut on

join nationality on

join agency on

join funding on

join projects on

groupby missionType

28. Top 3 astronauts in each country having the most fly time (window functions)

with mostFlyTime as(

select firstname,lastname

rank over (partition by countryName order by totalFlightTime desc) as rnk

from astronaut join nationality on astronaut.personID= nationality.personID

join country on nationality.countryName=country.countryName

)

select \* from mostFlyTime as x

where x.rnk <4

29. Return all satellite names from the launchVehicle which launched the most satellites

-- could possibly be a much simpler query

WITH numLaunched AS(

SELECT launchVehicle, COUNT(launchVehicle) AS numLaunched

FROM satellite

GROUP BY launchVehicle

),

mostLaunched AS(

SELECT launchVehicle FROM numLaunched

WHERE numLaunched = (

SELECT MAX(numLaunched) AS mostLaunched FROM numLaunched

)

)

--returns satellites

SELECT satellite.spacecraftName AS satellites FROM satellite

WHERE satellite.launchVehicle = (SELECT launchVehicle FROM mostLaunched)

30. Find the projects in each missionType that cost more than the average funding in that missionType – not complete

select \* from projects

join funding outerP on projects.projectID = funding.projectID

where cost >

(select avg(cost) from projects

join funding innerP on projects.projectID= funding.projectID

where outerP.missionType =...

⋆｡°✩

⋆｡˚ ☁︎ ˚｡⋆｡˚☽˚｡⋆ Welcome to the Space Database⋆｡˚ ☁︎ ˚｡⋆｡˚☽˚｡⋆

⋆⁺₊⋆ ☾⋆⁺₊⋆

**. \* ･ ｡ﾟ☆━੧༼ •́ ヮ •̀ ༽୨**

\(◡̈ )/♥︎