Test Paper- A

Table Schema

Astronauts:

astronaut_id:, Auto Increment– Unique identifier for each astronaut.
astronaut_name: Full name of the astronaut.
age: Current age of the astronaut.
nationality: Nationality of the astronaut.
total_space_missions: The number of space missions they have participated in.

Missions:

mission_id: Auto Increment– Unique identifier for each space mission.
mission_name: Name of the space mission.
launch_date: The date of the mission's launch.
duration_days: Total duration of the mission in days.
mission_type: The type of mission (e.g., research, exploration).

Spacecrafts:

spacecraft_id: Auto Increment– Unique identifier for each spacecraft.
spacecraft_name: Name of the spacecraft.
capacity: Number of astronauts the spacecraft can carry.
manufacturer: The company or country that manufactured the spacecraft.

Participation:

astronaut_id: Foreign Key – Links to the Astronauts table.
mission_id: Foreign Key – Links to the Missions table.
spacecraft_id: Foreign Key – Links to the Spacecrafts table.
role: The role of the astronaut in the mission (e.g., commander, engineer).

Consider above table schema and write following queries:

1.	Retrieve the distinct mission names where the mission lasted more than 30 days.
2.	Retrieve the top 3 astronauts who participated in the most missions, ensuring no duplicates.
3.	Insert a new space mission called "Jupiter Exploration" that is scheduled to launch on '2024-11-01', lasting 365 days, and classified as an exploration mission.
4.	Update the total space missions count for astronaut with ID = 5, increasing it by 1.
5.	Delete participation record for astronaut ID 3 in mission ID 2.
6.	Add a new column experience_level (VARCHAR(50)) to the Astronauts table to store the astronaut's experience level.
7.	Clear all the data from the Participation table.(Truncate)
8.	Retrieve all mission names where the mission type contains 'exploration'.
9.	Retrieve all missions that contain the word "Mars" and lasted more than 100 days.
10.	Retrieve the square root of the total number of missions for astronaut ID 102
11.	Retrieve the first 3 characters of each astronaut's name.

12.	Retrieve the astronauts who participated in missions launched in the current year.
13.	Count the number of astronauts from each nationality who have participated in more than 2 space missions.
14.	Retrieve the total number of missions and the average mission duration for each mission type, but only include mission types that have been involved in more than 3 missions.
15.	Find the number of missions commanded by astronauts for each nationality where more than 5 missions were commanded
16.	Retrieve the name of the spacecraft used in the mission "Apollo 11" (Use sub Query)
17.	Create a view that shows all active missions (those that launched after 2020).
18.	List all astronauts and their respective spacecraft for each mission they participated in.
19.	Retrieve the names of astronauts who participated in missions using spacecrafts manufactured by "SpaceX", along with the names of those missions and the duration of each mission. Include only astronauts who have participated in more than 2 missions.
20.	Retrieve the names of astronauts, the names of missions they participated in, the names of spacecraft used in those missions, and the manufacturers of those spacecraft, for missions where the mission duration is greater than the average duration of all missions conducted by astronauts from the "USA".