Create the tables with SQL statements on an Oracle 11g DBMS and answer the questions below. Your solution should include the DDL statements to create the tables and the DML INSERT statements to add sample data. For each question, please include your DML query and the result set.

starship table primary key is : **starshipid**

planet table primary is: **planetid**

plantvisit primary key is: **starshipID, planetID &, arrivalstardate**

| **starship** | | | | |
| --- | --- | --- | --- | --- |
| **starshipid** | **starshipname** | **crewsize** | **shipclass** | **launchstardate** |
| 351 | Stingray | 200 | StellarIV | 21450 |
| 352 | Excelsior | 200 | StellarIV | 21470 |
| 400 | Odyssey | 130 | LightCruiser | 21700 |
| 402 | Daredevil | 128 | LightCruiser | 21550 |
| 500 | Adventure | 85 | Argon | 21523 |
| 501 | Challenger | 80 | Argon | 21553 |
| 503 | Invincible | 75 | Argon | 21537 |
| 601 | Navigator | 1850 | Explorer | 21855 |
| 602 | Far Journey | 1900 | Explorer | 21890 |
| 700 | Davidson | 500 | Admiral | 21600 |
| 701 | Cochran | 500 | Admiral | 21650 |

| **planet** | | | |
| --- | --- | --- | --- |
| **planetid** | **planetname** | **radius** | **atmosphere** |
| 1 | Vulcan | 3500 | Nitrogen/Oxygen |
| 2 | Earth | 4000 | Nitrogen/Oxygen |
| 3 | Galactus Prime IV | 400 | None |
| 4 | Sigma Alpha Gamma | 2500 | Methane |
| 5 | Romulus | 4400 | Nitrogen |
| 6 | Borg | 10000 | Unknown |

| **planetvisit** | | | |
| --- | --- | --- | --- |
| **planetID** | **starshipID** | **arrivalStardate** | **departureStardate** |
| 1 | 351 | 22000 | 22008 |
| 1 | 351 | 22022 | 22029 |
| 1 | 701 | 22033 | 22044 |
| 2 | 352 | 22040 | 22044 |
| 2 | 402 | 22045 | 22047 |
| 3 | 352 | 22016 | 22017 |
| 3 | 701 | 22059 | 22063 |
| 4 | 352 | 22050 | 22052 |
| 4 | 402 | 22043 | 22044 |
| 5 | 402 | 22049 | 22053 |
| 5 | 701 | 22049 | 22052 |
| 6 | 352 | 22055 | 22059 |

Provide the SQL for the following queries:

1. List all details of the known planets.
2. List the name, crew size, and ship class for every starship.
3. What is the name of starship number 501?
4. Show all Starships launched after stardate 21500, sorted by shipClass and name.
5. Show all Starships except those in the 'Argon' class, sorted by launchStardate.
6. Show all planets with a radius ranging from 2000 to 4000 kilometers, sorted from largest to smallest.
7. Show all PlanetVisits where the length of the visit >= 4 stardates.
8. List the planet, starship, and length of stay for each planet visit.
9. Show all PlanetVisits to planets with planetIDs 1, 2, and 5, sorted by planetID and starshipID.
10. Show the average crew size for all starships in each shipClass. The result table should have two columns: 'shipClass' and 'Average Crew'.
11. For each Planet, show the number of visits made by all starships. Your result table should have two columns: 'planetID' and 'Num Visits'.
12. Show all Starships whose name has an 'a' as the 2nd character (For example, 'Navigator').
13. List the details of each planet visit along with the crewsize of the starship making the visit.
14. Create a table ‘Moon’ with the following attributes: MoonID, name, PlanetID, radius.
15. Add a constraint to the ‘Moon’ table making planetId a foreign key to the Planet table.
16. Insert 5 rows of data into the ‘Moon’ table.
17. Delete the ‘Moon’ table.
18. Union the name of every starship in the ‘Admiral’ class with the name of every planet with a radius > 3000.
19. Find the name, crewsize, and shipclass of every starship whose crewsize is larger then the crewsize of every starship of shipclass ‘LightCruiser’.
20. Change the name of starship 351 to ‘Atlas’.