For all queries, label all output columns appropriately.

1. Write a single SQL query to find the name of all living heroes and their power. A hero’s power is their power plus their pet’s power, their weapon’s power and one tenth of their strength. The strength of a hero is their strength plus their class’s strength increase.
2. Write a single SQL query to find the name of pets that are not in the inventory of any hero.
3. Write a single SQL statement to find for each race, the number of heroes of that race, the average level of those heroes and the number of different locations of heroes of that race.
4. Write a single SQL statement to find the name of the quests with the most total number of items rewarded for a single completion of the quest.
5. Write a single SQL statement to find the names of classes such that collectively the heroes of that class have all of the pets equipped.
6. The hero CS Student completed the quest Exam I. Add all of the rewards for the quest to CS Student’s inventory. You may assume CS Student does not have any of the items before completing the quest.
7. The hero CS Student killed Exam I and received a Grade A item. Assuming CS Student DOES NOT already have a Grade A item, update the database to add this item to the hero’s inventory.
8. List all of the tables that must be changed before the statement

```
UPDATE Items
SET item_id = 3335
WHERE item_name = 'SQL Book'
```

can be executed.

9. According to the SQL standard, what is the result of the following query?

```
SELECT item_name, count(hero_id)
FROM Pets NATURAL JOIN Items NATURAL JOIN Inventories
GROUP BY item_id
```
10. Assume the following statement executes without problems.

\[
\text{INSERT INTO Wespons DEFAULT VALUES};
\]

(a) What is the value of the weapon_pow attribute of this row? (3)

(b) What must be true about the value of the item_id attribute of this row? (4)

(c) What must be a property of the item_id attribute? (4)

11. In JDBC, what does it mean when the next method of the ResultSet class returns false? (3)

12. For JDBC, describe the information in the ResultSetMetaData object. (3)

13. From JDBC, list three things that are used by the Connection class to connect to a database. (3)