SQL Notes:

1) Rounding up functions in SQL:

A screenshot of a computer program

AI-generated content may be incorrect.

A screenshot of a computer

AI-generated content may be incorrect.

A screenshot of a black screen

AI-generated content may be incorrect.

TRUNCATE() works in MySQL and is used to display a num with specific dec places without rounding.

A screenshot of a computer program

AI-generated content may be incorrect.

2) Things to know about Aggregation in SQL:

A screenshot of a computer

AI-generated content may be incorrect.

A screenshot of a computer program

AI-generated content may be incorrect.

Example:

A screenshot of a computer

AI-generated content may be incorrect.

3) Variables in SQL:

A screenshot of a computer program

AI-generated content may be incorrect.

A screenshot of a computer

AI-generated content may be incorrect.

Syntax differs in each of the SQL dialects, but they serve the purpose of creating a variable.

4) SQL Order of execution:

A screenshot of a black screen

AI-generated content may be incorrect.

A screenshot of a computer

AI-generated content may be incorrect.

Checking NULL in SQL:

A black rectangular object with white lines

AI-generated content may be incorrect.

5) When to use Window function:

In case if we want to find a max value department wise, then we would use aggregate function max() and group by clause.

But the above technique has limitations. If we must display other details of the table as well then it won’t be possible, as it will throw, we have a non-aggregate column called in the query.

Remedy: To overcome this situation, we go ahead for the window functions.

To make the Aggregate function apply throughout the table we can add Over() which will simply display all the columns/windows along with the aggregated value.

Further to group these windows/columns we can use **Over**(**partition by** dept\_name) . This would result in each department considered as a window and would result in max value separately for each department but would still give all the records in the table but in order of windows created.

6) Join/INNERJOIN:

A black screen with white text

AI-generated content may be incorrect.

A screenshot of a black screen

AI-generated content may be incorrect.

While using conditional Joins just make sure we that there is no duplicates or ambiguity.

A screenshot of a computer

AI-generated content may be incorrect.

Example:

*Ketty* gives *Eve* a task to generate a report containing three columns: *Name*, *Grade* and *Mark*. *Ketty* doesn't want the NAMES of those students who received a grade lower than *8*. The report must be in descending order by grade -- i.e. higher grades are entered fa. If there is more than one student with the same grade (8-10) assigned to them, order those particular students by their name alphabetically. Finally, if the grade is lower than 8, use "NULL" as their name and list them by their grades in descending order. If there is more than one student with the same grade (1-7) assigned to them, order those particular students by their marks in ascending order.

Write a query to help Eve.

SELECT

CASE

WHEN g.Grade < 8 THEN 'NULL'

ELSE s.Name

END AS Name,

g.Grade,

s.Marks

FROM Students s

JOIN Grades g

ON s.Marks BETWEEN g.Min\_Mark AND g.Max\_Mark

ORDER BY

g.Grade DESC,

CASE

WHEN g.Grade < 8 THEN NULL

ELSE s.Name

END ASC,

CASE

WHEN g.Grade < 8 THEN s.Marks

ELSE NULL

END ASC;

7) Date manipulation in SQL:

A screenshot of a computer program

AI-generated content may be incorrect.

A screenshot of a computer

AI-generated content may be incorrect.

A screenshot of a computer

AI-generated content may be incorrect.

A screenshot of a computer

AI-generated content may be incorrect.