SQL Training - Day 3 Detailed Notes

1. DATE FUNCTIONS

Date functions are used to manipulate and perform calculations on date and time values in SQL. Examples of common date functions: - SYSDATE: Returns the current system date and time. - CURRENT_DATE: Returns the current date in session time zone. - ADD_MONTHS(date, n): Adds n months to a date. - MONTHS_BETWEEN(date1, date2): Returns the number of months between two dates. - NEXT_DAY(date, 'DAY'): Returns the next day of the specified weekday after a given date. - LAST_DAY(date): Returns the last day of the month for the given date. - ROUND(date, 'MONTH'): Rounds date to the nearest month. - TRUNC(date, 'YEAR'): Truncates the date to the first day of the year.

2. VSIZE, RANK, DENSE_RANK

VSIZE(column): - Returns the number of bytes used to store the data in a column (useful for size analysis). RANK() Function: - Provides a unique rank to rows based on a specified column value, with gaps in ranking when ties occur. Example: SELECT ename, sal, RANK() OVER (ORDER BY sal DESC) AS rank FROM emp; DENSE_RANK() Function: - Similar to RANK(), but does not skip ranks when ties occur. Example: SELECT ename, sal, DENSE_RANK() OVER (ORDER BY sal DESC) AS dense_rank FROM emp;

3. CONVERSION FUNCTIONS

Conversion functions in SQL are used to convert data from one type to another. Common Conversion Functions: 1. TO_CHAR(date/number, format): Converts a date or number to a string. Example: TO_CHAR(SYSDATE, 'DD-MON-YYYY') 2. TO_DATE(char, format): Converts a string into a date using the specified format. Example: TO_DATE('14-OCT-2025', 'DD-MON-YYYY') 3. TO_NUMBER(char): Converts a string into a number. Example: TO_NUMBER('1234') 4. CAST(expression AS datatype): Converts an expression to a specific data type. Example: CAST('2025-10-14' AS DATE) These functions help ensure that data types are compatible during comparisons or calculations.