Q1. How would you remove duplicates from a list in Python without changing the order?

Ans:-

Use a combination of dict.fromkeys() or a set and a list comprehension to remove duplicates while preserving order.

Q2. Explain the difference between Python's strip(), rstrip(), and lstrip() functions with examples.

 strip() removes whitespace from both ends of a string.

 rstrip() removes whitespace only from the right end.

 lstrip() removes whitespace only from the left end.

Q3. What is the purpose of using try-except blocks in Python? Provide an example demonstrating its use.

Ans:-

try-except blocks handle exceptions and errors gracefully in Python, allowing the program to continue running or exit cleanly instead of crashing.

Q4. How do you open and read a CSV file in Python? Provide an example of reading data from a CSV file and performing operations on it.

Ans:-

Use the csv module or pandas library to open and read CSV files, allowing you to perform operations like iterating through rows or analyzing data.

SQL

Q1. Explain the differences between INNER JOIN, LEFT JOIN, and RIGHT JOIN in SQL. Provide an example scenario for each.

Ans:-

*  INNER JOIN returns records with matching values in both tables.
* LEFT JOIN returns all records from the left table and matching records from the right table.
* RIGHT JOIN returns all records from the right table and matching records from the left table.

Q2. What are aggregate functions in SQL? Give examples of at least three aggregate functions and explain their use cases.

Ans:-

Aggregate functions like SUM(), AVG(), and COUNT() perform calculations on multiple rows of a table and return a single value.

Q3. Explain what a subquery is in SQL and provide an example where a subquery would be useful.

Ans:-

A subquery is a query nested inside another query. It is useful for filtering results, such as finding all employees who earn more than the average salary.

Q4. What is database normalization, and why is it important? Provide an example of a normalized database structure.

Ans:-

Normalization is the process of organizing a database to reduce redundancy and improve data integrity. For example, separating customer data into multiple related tables.

DS

Q1. What is tokenization in text mining, and why is it important? Provide an example of how tokenization works in practice.

Ans:-

Tokenization splits text into smaller units, like words or sentences, which is essential for text analysis. For instance, splitting a sentence into words for sentiment analysis.

Q2. How does text classification work in text mining? Provide an example of a scenario where text classification would be useful.

Ans:-

Text classification involves categorizing text into predefined classes. For example, classifying customer feedback as positive or negative.

Q3. How can you tokenize a paragraph into sentences and then words using NLTK in Python? Provide an example.

Ans: To tokenize a paragraph into sentences and then words using NLTK (Natural Language Toolkit) in Python, you can use the `sent\_tokenize` and `word\_tokenize` functions. Here's an example:

Q4. Write a Python function that counts the occurrences of each word in a given text string.

Ans:-

Write a Python function that uses a dictionary to count how many times each word appears in a given string.