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DAY 11

TRAINING REPORT

1.What is SPARQL :

SPARQL (pronounced "sparkle") stands for SPARQL Protocol and RDF Query Language. It is a query language and protocol used for querying and manipulating RDF (Resource Description Framework) data, which is a standard model for data interchange on the Web. Here's an overview of SPARQL:

1. **Query Language**: SPARQL is a declarative query language similar to SQL (Structured Query Language) but designed specifically for querying RDF data. It allows users to retrieve and manipulate data stored in RDF format.
2. **Features**: SPARQL supports various features essential for querying RDF data:
    - **Pattern Matching**: Allows querying RDF graphs by specifying patterns of triples (subject-predicate-object).
    - **Filtering**: Enables filtering query results based on conditions.
    - **Aggregation**: Supports aggregation functions like COUNT, SUM, AVG, etc., to aggregate data in query results.
    - **Sorting**: Allows sorting query results based on specified criteria.
    - **Subqueries**: Supports nested and subqueries to perform complex data retrieval operations.
    - **Update Operations**: SPARQL also includes operations for updating RDF graphs, such as inserting, deleting, and updating RDF triples.

2.Use of PREFIX , SELECT , FROM , WHERE :

In SPARQL, the keywords `PREFIX`, `SELECT`, `FROM`, `WHERE`, and `USE` are essential components used to construct queries for retrieving data from RDF datasets. Here's a brief explanation of each:

1. **PREFIX**:
    - **Purpose**: Defines namespace prefixes to simplify the writing of URIs in SPARQL queries.
    - **Usage**: Used at the beginning of a SPARQL query to declare short forms (prefixes) for URIs used in the query.
2. **SELECT**:

- **Purpose**: Specifies what variables or expressions to retrieve as results from the query.
- **Usage**: Follows the `PREFIX` declarations and specifies variables or expressions that represent the data to fetch from the RDF dataset.

3. **FROM:**

- **Purpose**: Specifies the RDF dataset or graph(s) from which to query data.
- **Usage**: Specifies the RDF dataset or named graph(s) that will be queried.

4. **WHERE**:

- **Purpose**: Defines the patterns or conditions that RDF triples must match to be included in the query results.
- **Usage**: Follows the `FROM` clause and specifies triple patterns or conditions that RDF triples must satisfy to be included in the query results.