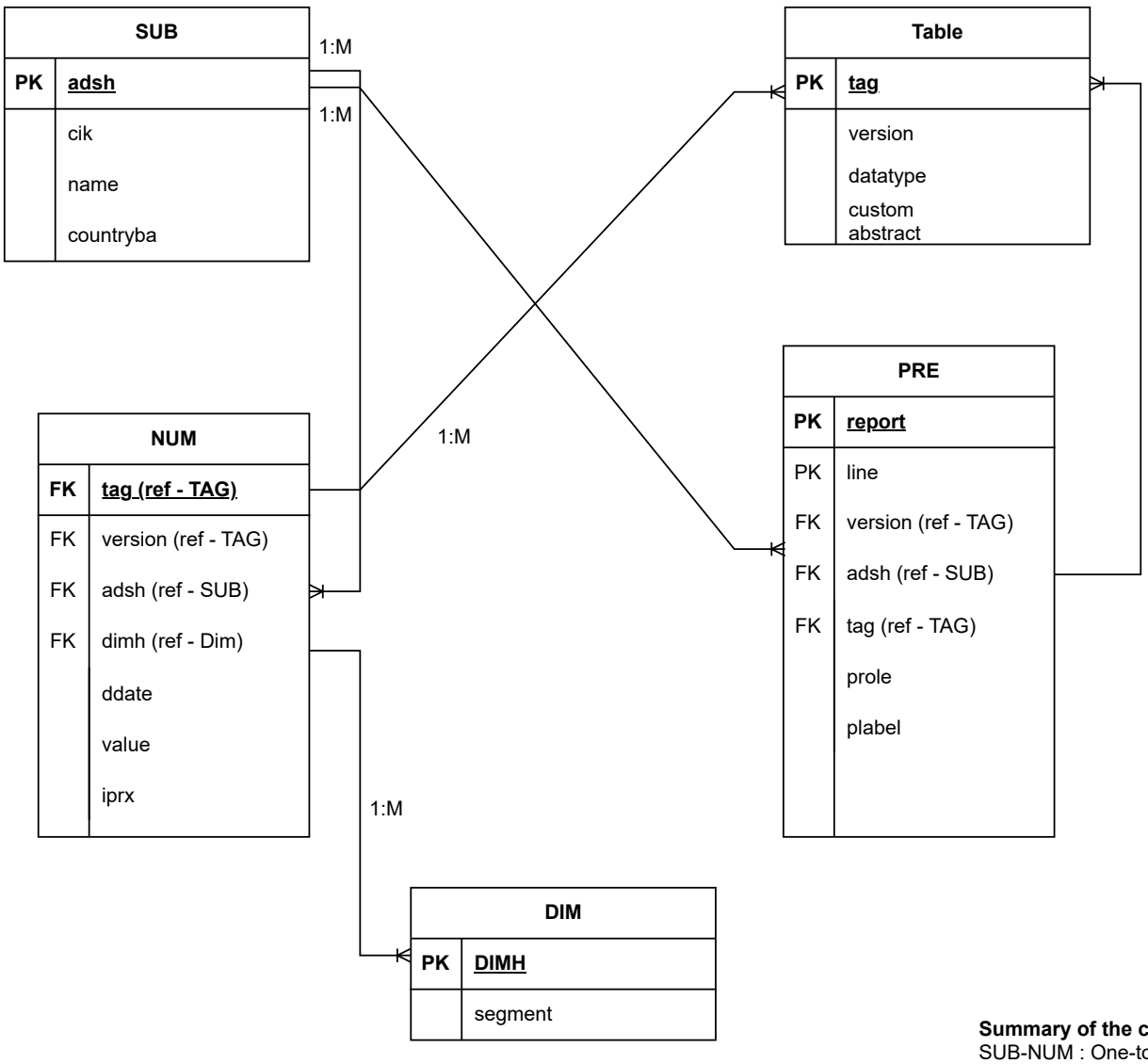

Summary of the cardinality:
SUB-NUM : One-to-many
SUB-PRE : One-to-many
TAG-NUM : Many-to-one
TAG-PRE : Many-to-one
DIM-NUM : Many-to-one

Relational Schema Description

Entities:

1. **SUB Table**:

   Stores information about the submission or entity (like a company).

   - **Columns**:
     - adsh: Primary Key (PK). Likely a unique identifier for each submission or company.
     - cik: Central Index Key, another identifier often used for companies.
     - name: Name of the company or entity.
     - countryba: Country of business address.
   - **Relationships**:
     - Has a one-to-many (1-M) relationship with the NUM table and the PRE table, meaning each adsh in SUB can be associated with multiple entries in these tables.
2. **NUM Table**:

   Contains numerical data, possibly financial figures or metrics.

   - **Columns**:
     - tag: Foreign Key (FK) that references the TAG table, indicating the type of data (e.g., revenue, expenses).
     - version: References the version in the TAG table, showing the specific data version.
     - adsh: FK, referencing the SUB table to link this data to a specific submission or entity.
     - dimh: FK, referencing DIM, likely representing the dimension or category (such as "geographic region").
   - **Relationships**:
     - Has a many-to-one (M:1) relationship with TAG and SUB through tag and adsh attributes.
     - Has a many-to-one (M:1) relationship with DIM via dimh, indicating that each NUM entry might relate to a specific segment or category in DIM.
3. **DIM Table**:

   Represents dimensions or segments related to the numerical data.

   - **Columns**:
     - dimh: Primary Key, uniquely identifying each segment.
     - segment: Name or description of the dimension, such as "North America" or "Retail".
   - **Relationships**:

        - Has a one-to-many (1-M) relationship with NUM, meaning each dimension can relate to multiple numerical records.
4. **TAG Table**:

   Holds metadata about different data types and their versions.

   - **Columns**:
     - tag: Primary Key, uniquely identifying each tag.
     - version: Version of the tag, likely to track different iterations or standards of the tag.
     - datatype: Data type associated with the tag (e.g., monetary, percentage).
     - custom: Indicates if the tag is customized or standardized.
     - abstract: Likely a descriptor or category, helping to clarify the purpose of the tag.
   - **Relationships**:
     - Has a many-to-one (M:1) relationship with NUM and PRE tables, where NUM and PRE reference TAG through the tag column.
5. **PRE Table**:

   May store information on the presentation or report structure.

   - **Columns**:
     - report: Primary Key, uniquely identifying each report.
     - line: Line number or order in the report, helping to organize the presentation order.
     - version: FK, linking to the TAG table to identify which version of data is being referenced.
     - adsh: FK, linking back to SUB to associate this report with a specific submission or entity.
     - tag: FK, linking to TAG, representing the data type or metric being reported.
     - prole: Presentation role, which might specify how the data is displayed or grouped in the report.
     - plabel: Presentation label, likely a human-readable label for the line or data type.
   - **Relationships**:
     - Has a one-to-many (1
) relationship with the SUB table and a many-to-one (M:1) relationship with TAG.

Relationship Summary:

- **SUB-NUM (1:M)**: Each submission or entity (SUB) can have multiple numerical entries (NUM), with each entry linked by adsh.
- **SUB-PRE (1:M)**: Each submission can be associated with multiple presentation/report entries (PRE).
- **TAG-NUM (M:1)**: Each numerical entry in NUM is associated with one type of data (TAG), identified by the tag and version.

- **TAG-PRE (M:1)**: Each presentation entry in PRE is associated with a specific data tag, also identified by tag.
- **DIM-NUM (M:1)**: Each numerical entry can be linked to one dimension (DIM), representing additional segmentation or categorization.