**Requirement Document**

A typical **requirement document** (used in software or AI/ML projects) contains these sections:

#### **Element 1. Introduction**

* Purpose of the document
* Project overview
* Scope of the system
* Intended users/audience

#### **Element 2. System Overview**

* System functions (what it will do)
* System constraints (limitations, dependencies, hardware/software requirements)

#### **Element 3. Functional Requirements**

* Feature-wise description of what the system should do  
   Example:  
  + FR1: The system should allow users to register using email and password.
  + FR2: The system should compile and execute user code in Python, C++, and Java.

#### **Element 4. Non-Functional Requirements**

* Performance (speed, response time)
* Security
* Usability
* Scalability
* Reliability

#### **Element 5. System Models (Optional)**

* Use case diagrams
* Data flow diagrams (DFDs)
* Entity-Relationship Diagrams (ERDs)

#### **Element 6. Interface Requirements**

* User interface (UI) design
* API interfaces
* Hardware/software interfaces

#### **Element 7. Data Requirements**

* Type of data stored
* Database schema (tables, attributes, relationships)
* Example datasets or constraints

#### **Element 8. Assumptions and Dependencies**

* External systems or APIs
* Libraries or frameworks used