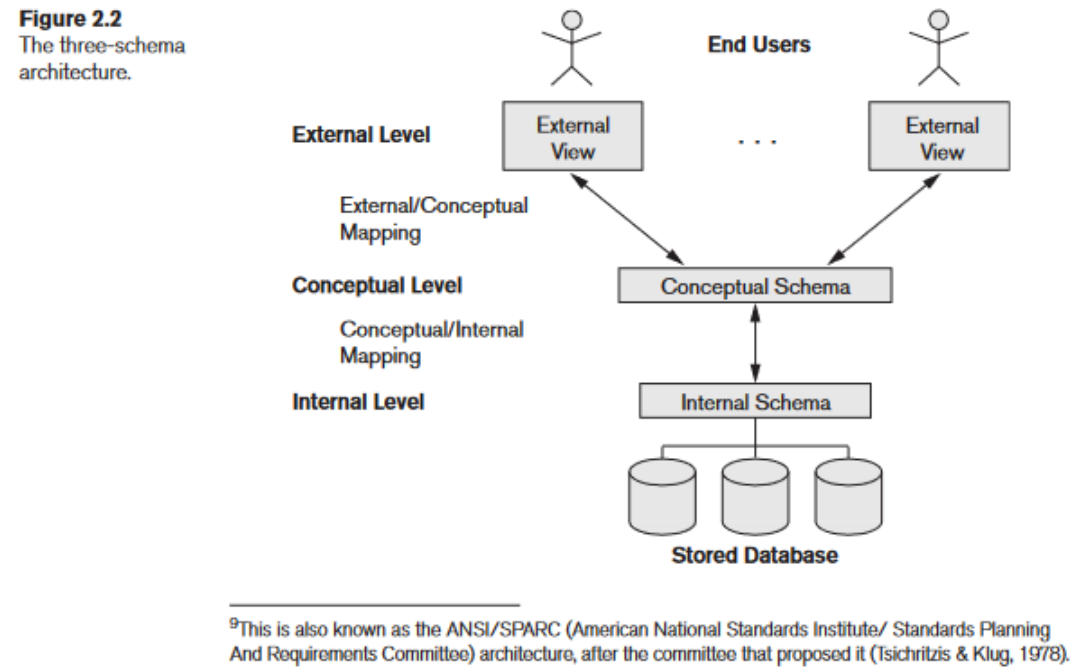
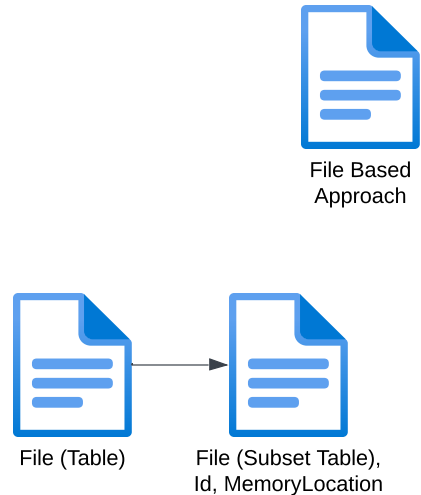
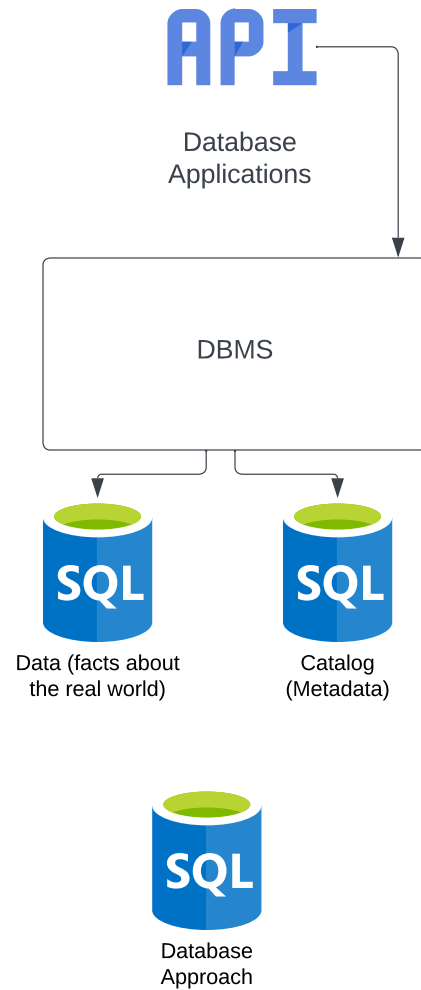


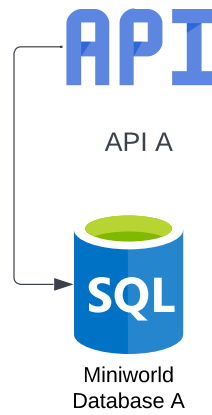
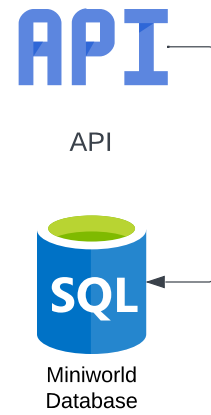
- Users**
- On the scene -
- DBA - administrates database, coordinate with other stakeholders
 - Database Designer - this is you!
- Requirements gathering
- Conceptual design
- Logical design
- Physical design
- End users
- Casual - need to know some things about the DBMS
 - Naive - don't need to know about the DBMS
 - Sophisticated - Software Engineer & System Engineer, etc..
- Behind the scene - (aren't concerned with your mini world)
- Standalone - excel to manage your budget

- Database System
- Database - related data (general)
- Logically coherent
 - represents the real world
 - it has a purpose
- DBMS (DCMS)
- Define - Metadata
 - Construct (storage medium)
 - Manipulate - i.e. SQL
 - Sharing - multiple users
- Protection - implements security
- Maintenance - i.e. index maintenance



Client

Server



		High Level	Natural Language, 4th Dimensional Programming Languages
			Python
	Compiler		Java C#
			C, C++
0. Requirements		Low Level	Assembly, Machine Language
	High	Conceptual Representation	Entities, Attributes, and Relationships (ER Diagrams)
	DBMS	Logical Representation	
	Low	Physical Representation	Need to know a lot