

SQL \Rightarrow Structured Query Language.

\rightarrow Declarative Language or non-procedural Language.

Procedural Language	Non-Procedural Language.
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\rightarrow User has to tell both why & how to do it.

\rightarrow C, C++, Java etc.

\rightarrow It is based on concepts from Set theory.

\rightarrow User has to tell what to do & need not worry about how to do it.

\rightarrow SQL, LISP etc.

SQL features

1.

DDL (Data Definition Language)

Deals with Schema

- CREATE
- ALTER
- DROP
- TRUNCATE

DML (Data Manipulation Language)

Deals with Data inside Tables

- SELECT
- DELETE
- INSERT
- UPDATE

2. Defining views on the database.

3. Specifying security and authorization.

4. Specifying transaction controls.

SQL Schema

- It is identified by a schema name and it includes an authorization identifier to identify the user or account who owns the schema, as well as the descriptors for each element in the schema.
- Schema elements could include tables, types, constraints, views, domains, indexes etc.

We can create a schema using below command.

Create schema schema-name Authorization user-name;

- Not all users are authorized to create schemas and schema elements.

Catalog

- It is a named collection of schemas.
- When db is installed, default environment & schema is created, so that when a user logs in, he/she can directly refer to tables & other elements, without having to specify a particular schema name.

INFORMATION_SCHEMA

- A catalog always contains a special schema called information-schema, which provides information on all the schemas in the catalog & all the element descriptor in them.

How to set newly created schema to use?

SET search-path TO schema-name ;

EMPLOYEE

FNAME	MINIT	LNAME	<u>SSN</u>	BDATE	ADDRESS	SEX	SALARY	SUPERSSN	DNO
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DEPARTMENT

DNAME	<u>DNUMBER</u>	MGRSSN	MGRSTARTDATE
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DEPT_LOCATIONS

<u>DNUMBER</u>	<u>DLOCATION</u>
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PROJECT

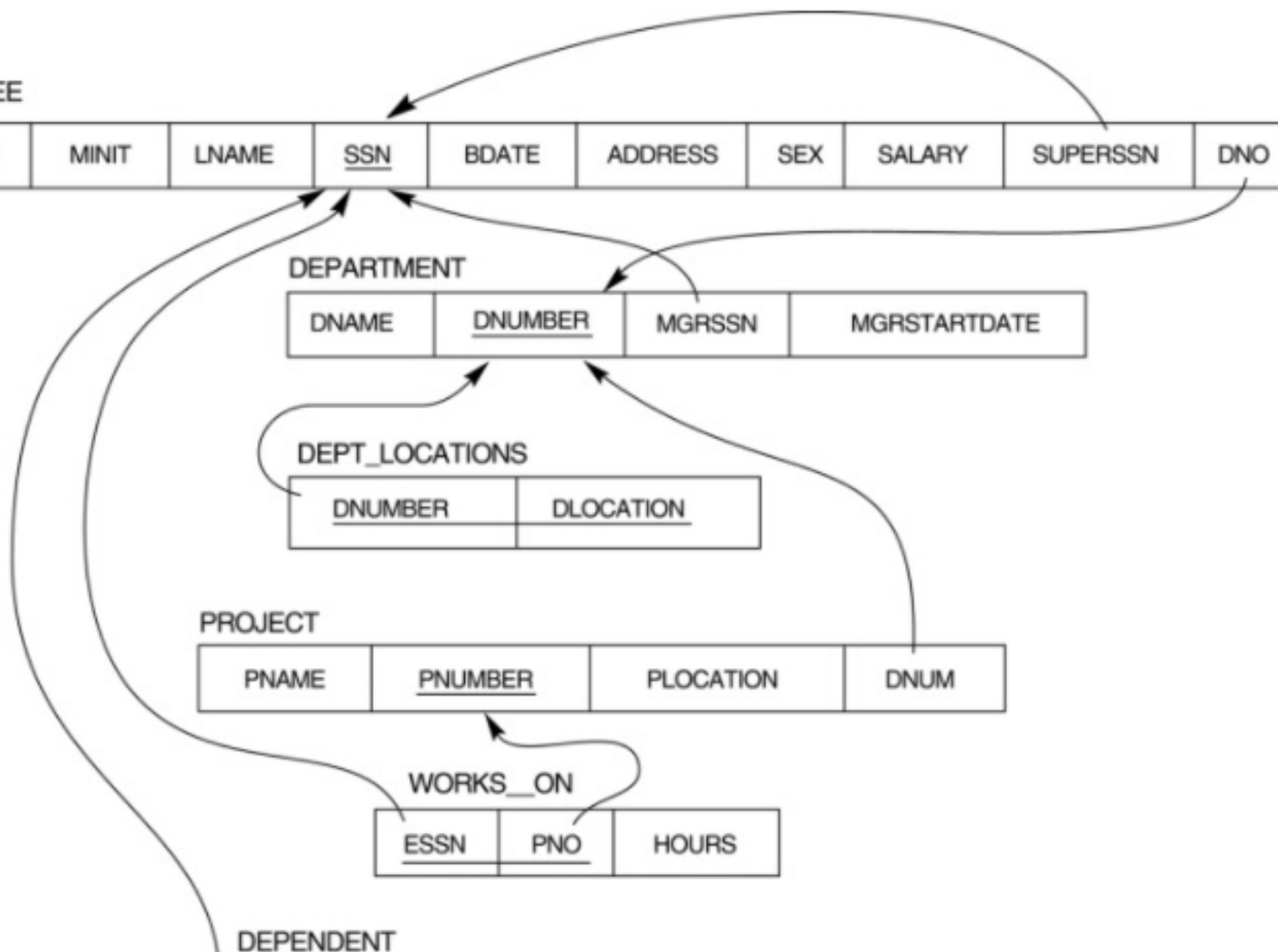
PNAME	<u>PNUMBER</u>	PLOCATION	DNUM
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WORKS_ON

<u>ESSN</u>	<u>PNO</u>	HOURS
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DEPENDENT

<u>ESSN</u>	<u>DEPENDENT_NAME</u>	SEX	BDATE	RELATIONSHIP
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DDL Commands

```
Create table table-name (  
  attribute1-name datatype ,  
  attribute2-name datatype ,  
  attribute3-name datatype ,  
  - - - - -  
  - - - - -  
  attributen-name datatype  
);
```