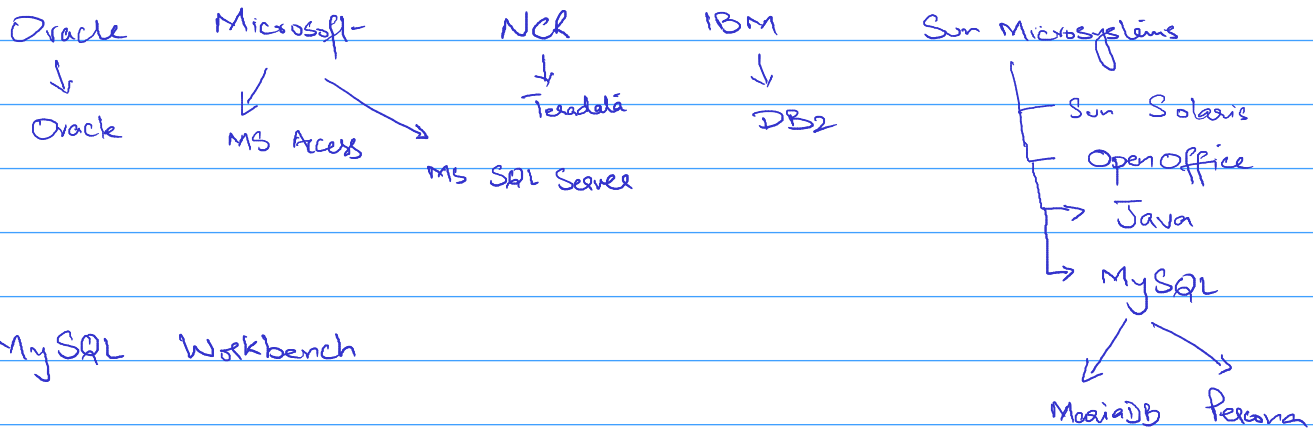


Structured Query Language

ANSI
Sequel / es Query

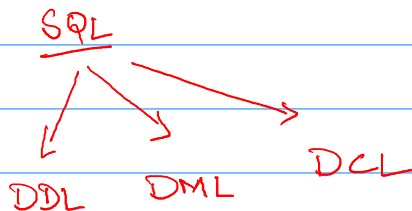


MySQL Workbench

Apache, MySQL, PHP
AMP Stack

Linux	L
Windows	W
Mac	M

XAMP



DDL → Data Definition Language

plays with the structure of Data

- Create
- Use
- Drop
- Alter

DML → Data Manipulation Language

plays with data in the database

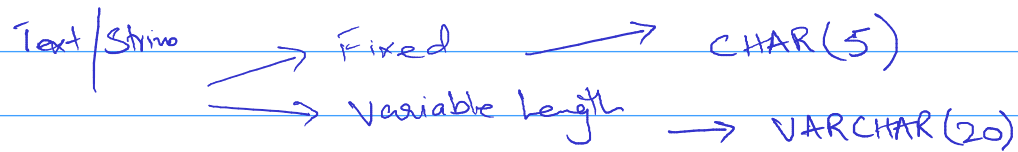
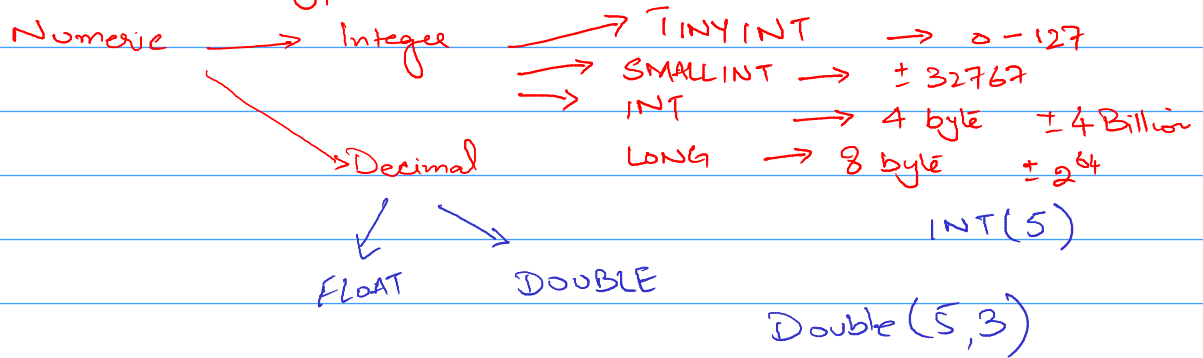
DCL → Data Control Language

plays with the database management

- Backup & Recovery
- Transactions
- Checkpoints
- Access Control
- User Mgmt

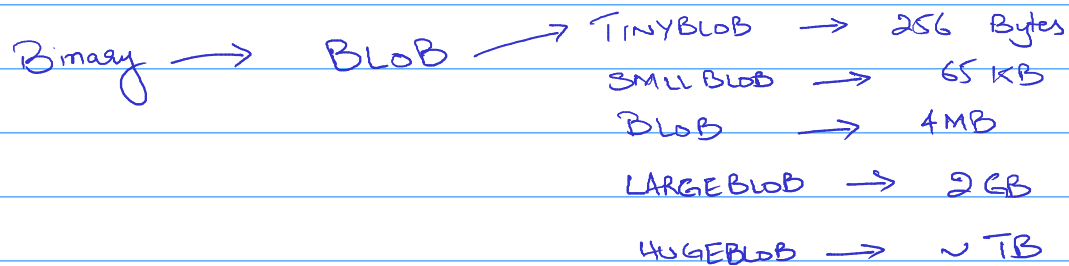
Datatypes in SQL

TINYINT(1)



Bool

Date / Time / DateTime



```
-- which databases are available
```

```
show databases;
```

```
-- create a new database
```

```
create database dbd11;
```

```
-- how to delete a database
```

```
drop database dbd11;
```

```
-- all future commands should be executed against dbd11
```

```
use dbd11;
```

```
-- which tables are available
```

```
show tables;
```

```
SHOW DATABASES;          -- sql is not case sensitive
```

```
-- add a new table in the db
```

```
Create table Student
```

```
(
```

```
    sid INT(5),
```

```
    sName VARCHAR(20),
```

```
    gpa FLOAT(3,2),
```

```
    sex CHAR(1)
```

```
);
```

```
-- what is the structure of table
```

```
describe Student;
```

```
-- discard the table and the data in the table
```

```
DROP table Student;
```

```
CREATE Table Student
```

```
(
```

```
    sid INT(5) NOT NULL UNIQUE,
```

```
    fName varchar(10),
```

```
    lName varchar(10),
```

```
    dob DATE,
```

```
    phone CHAR(11),
```

```
    gpa float(3,2) NOT NULL,
```

```
    Sex CHAR(1) DEFAULT 'M',
```

```
    PRIMARY KEY(SID)
```

```
);
```

-- Adding Data in the Table

```
Insert into Student VALUES(1, 'Ali', 'Ahmad', NULL, '12345678901',  
3.33, NULL);
```

-- Show the data in the table

```
Select * from Student;
```

-- Add data in Sepcific Columns and different ordser

```
Insert Into Student (SID, lName, fName, Phone, GPA, DOB) VALUES  
(2, 'Saleem', 'Farooq', '98765432101', 3.67, '2000-07-18');
```

-- Adding multiple data

```
Insert Into Student (SID, lName, fName, Phone, GPA, DOB, Sex) VALUES  
(3, 'Ali', 'Fatima', '98765432101', 3.67, '2000-07-18', 'F'),  
(4, 'Hakeem', 'Abdul', '96385274109', 3.0, '2001-01-18', 'M'),  
(5, 'Shakir', 'Parveen', '96385274109', 3.0, '2001-01-18', 'F');
```

7th Edition

Structure	→	pg 164	} Assign 1 part- 1 Submission Wednesday 26 th Apr 10:00 AM
Data	→	pg 162	
Help	→	pg 181	

```
select * from student where sex = 'F' AND sid < 4;
```

```
SELECT * FROM Customers;
```

```
SELECT * FROM Customers where COUNTRY = 'Germany';
```

```
SELECT * FROM Customers where COUNTRY = 'Germany' OR Country = 'France';
```

```
SELECT * FROM Products where Price = 20;
```

```
SELECT * FROM Orders where OrderDate = '1996-07-08';
```

```
SELECT * FROM Products where Price <= 18;
```

```
SELECT * FROM Products where Price >= 18 and Price <= 22;
```

```
SELECT * FROM Customers where Country = 'France' AND City = 'Paris';
```

```
SELECT * FROM Customers where Country != 'France';
```

```
SELECT * FROM Customers where Country <> 'Germany';
```

```
select * from Products where (price > 15 and price < 22)  
or (supplierid <= 10 and supplierid > 5)
```

```
select CustomerID, CustomerName, City, Country from Customers;
```

```
select CustomerID, CustomerName, City, Country from Customers where Country = 'Germany'
```

```
select Country, CustomerID, CustomerName from Customers where  
Country = 'France' and City = 'Paris';
```

```
select City , Country from Customers;
```

```
select distinct City , Country from Customers;
```

```
select CustomerID, ContactName as President, City, Country from Customers
```

```
Select * from Customers where Country > 'Sweden'
```

```
Select * from Customers where Country = 'France'  
OR Country = 'Germany' OR country = 'Sweden';
```

```
Select * from Customers where Country IN ('France', 'Germany', 'Sweden');
```

```
Select * from Customers where Country NOT IN ('France', 'Germany', 'Sweden');
```

Select * from Products where price >= 10 AND price <= 15

Select * from Products where price BETWEEN 10 AND 15;

Select * from Products where price < 10 OR price > 15;

Select * from Products where price NOT BETWEEN 10 AND 15;

Wildcards

% any 0 or more length string
_ exactly 1 character

Show customers whose name start with L

Select * from Customers where ContactName LIKE 'L%';

Show customers whose 2nd name start with L

Select * from Customers where ContactName LIKE '% L%';

Name end with n

Select * from Customers where ContactName LIKE '%n';

2nd laster letter is o

Select * from Customers where ContactName LIKE '%o_';

name contains 2 n

Select * from Customers where ContactName LIKE '%n%n%';

Select * from Customers where ContactName NOT LIKE '%n%n%';

Select * from Customers where Country IS NULL

Select * from Customers where Country IS NOT NULL

SSN

Find the ids of the Employees whose name start with 'J'

123456789

Select ssn from Employee where Fname LIKE 'J%';

987654321

453453453

888665555

Find the ids of the Employees who have a male Dependent

ESSN

Select ESSN from Dependent where Sex = 'M';

333445555

987654321

Find the Ids of the Employees whose name start with J
or they have a male dependent

123456789

Select ssn from Employee where Fname LIKE 'J%'

SSN

UNION

Select ESSN from Dependent where Sex = 'M';

123456789

987654321

453453453

888665555

333445555

Union Compatibility

1. No of Columns/Attributes in the sets should be same

2. Corrospounding pairs of colums/attributes should have same datatype / domain

Find the Ids of the Employees whose name start with J
and they also have a male dependent

```
Select ssn from Employee where Fname LIKE 'J%'
```

INTERSECT

```
Select ESSN from Dependent where Sex = 'M';
```

MY SQL

```
Select ssn from Employee where Fname LIKE 'J%'  
AND SSN IN (Select ESSN from Dependent where Sex = 'M');
```

Find the Ids of the Employees whose name start with J
but they do not have a male dependent

```
Select ssn from Employee where Fname LIKE 'J%'
```

EXCEPT

```
Select ESSN from Dependent where Sex = 'M';
```

MY SQL

```
Select ssn from Employee where Fname LIKE 'J%'  
AND SSN NOT IN (Select ESSN from Dependent where Sex = 'M');
```