SQL information for knowledge

Typical SQL statement

```
SELECT DISTINCT column1, column2, ...
FROM table_name;
WHERE condition;
ORDER BY column1, column2, ... ASC|DESC;
```
Note the order of SQL query operators

Keywords and Definitions

Normalisation - a set of database design rules to minimize redundancy

Primary Key

- Definition: unique identifiers for each row in a table
- Does not allow null values

Unique Key

- Definition: identifies an individual tuple uniquely in a relation or table
- Allows one null value

Identity Column – a column that automatically generates numeric values

Indexes

- Definition: speed up the data retrieval
- Types: (1) Clustered and (2) Nonclustered

RAISEERROR – a keyword used to raise an error in stored procedure

DATETIME

- default date is January 1, 1900
- `SELECT CAST (-1 AS DATETIME)`

Acronyms	Remarks
ACID	Atomicity, consistency, isolation, and durability
RAID	Redundant Array of Independent/Inexpensive Disks
OLTP	on-line transaction processing

SQL Server

Types of locks in SQL server

- Shared locks
- Exclusive locks
- Schema locks

Authentication modes in SQL Server

- Windows mode
- Mixed mode

Trigger

- Definition: A SQL procedure that initiates an action when an event (INSERT, DELETE or UPDATE) occurs
- Types of trigger: DML and DDL

Temporary Tables in SQL server

- Global and local temporary tables

Blob is not a valid data type in SQL server

Valid transaction levels in SQL server

- Read Committed
- Read Uncommitted
- Repeatable Read

SQL Server uses the following **precedence order for data types**:

1. user-defined data types (highest)
2. sql_variant
3. xml
4. datetimeoffset
5. datetime2
6. datetime
7. smalldatetime
8. date
9. time
10. float
11. real
12. decimal
13. money
14. smallmoney
15. bigint
16. int
17. smallint
18. tinyint
19. bit
20. ntext
21. text
22. image
23. timestamp
24. uniqueidentifier
25. nvarchar (including nvarchar(max))
26. nchar
27. varchar (including varchar(max))
28. char
29. varbinary (including varbinary(max))
30. binary (lowest)