

DBMS

RDBMS

SQL

SQL Statement

1) DDL (Data Definition Language)

create

alter

drop

truncate

rename

2) DML (Data Manipulation Language)

insert

update

select

delete

3) DCL (Data Control Language)

Grant

Revoke

4) TCL (Transactional Control Language)

Commit

Rollback

SQL clauses

1) where

2) having

3) group by

4) order by

5) on

sql operator

1) arithmetic

(+, -, *, /)

2) comparison

(=, <, >, >=, <=, !=, !)

3) logical

1) AND

2) OR

3) NOT

4) concatenation

5) like

6) set

SQL Constraints

1) primary key

2) unique key

3) not null

4) check

5) default

SQL Functions

1) aggregate functions

max, min, avg, sum, count

2) character functions

a) case manipulation

->lower

->upper

->initcap

b) character manipulation

->length

->substr

->instr

3) data functions

1) add_months

2) months_between

3) next_day

4) last_day

5) sysdate

6) systimestamp

4) conversion functions

a) to_date

b) to_char

c) NVL

d) decode

Group by

distinct

having

order by

SQL Subquery

- 1) inner query
- 2) outer query

Pseudo column -> virtual column from database

- 1) Rank()
- 2) Dense_rank()
- 3) Rownum
- 4) Rowid

Foreign key / referential integrity constraint

SQL Join

- 1) inner join
- 2) outer join
- 3) right outer join
- 4) full outer join
- 5) cross join
- 6) equi join
- 7) non-equi join

Set operator

- 1) union
- 2) union all
- 3) Intersect
- 4) minus

etl :- extract --- tranform-----load

DWH architecture

- a) data source layer
- b) data staging layer
- c) data storage layer
- c) reporting layer

OLTP (online transaction processign system)

OLAP (online analytical processing system)

Normalization

- 1) 1NF
- 2) 2NF
- 3) 3NF

Data model

- a) conceptual data model
- b) logical data model
- c) physical data model

Relational data model vs Dimension data model

fact

fact table

dimesion

dimesion table

dimension model

- 1) star schema
- 2) snowflake schema
- 3) galaxy or fact constellation schema

type of fact

- 1) additive fact
- 2) non-additive fact
- 3) semi-additive fact

type of dimensions

- 1) slowly changing dimensions
 - a) type 0
 - b) type 1
 - c) type 2
 - d) type 3
 - e) type 4
 - f) type 6
- 2) Confirmed dimensions
- 3) Degenerated dimension
- 4) junk dimension

natural key

surrogate key

data mapping

type of ETL testing

- 1) Metadata testing (verification testing)
- 2) Data completeness testing (validation testing)
- 3) Data transformation testing (validation testing)
- 4) Data quality testing (validation testing)
- 5) Security testing
- 6) performance testing

Environments in software development and testing

- 1) development environment

- 2) test environment
- 3) UAT environment
- 4) Pre-production environment
- 5) production environment

BI testing

- 1) report dashboard
- 2) report name
- 3) report fields
- 4) report type

Retesting

regression testing

ETL Tester - roles and responsibility

ETL testing challenges

Types of loading

- 1) initial load
- 2) incremental load
- 3) full load

manual testing

Software development life cycle (SDLC)

1 initial/requirement gathering

2 requirement analysis :- srs

3 design

4 coding

5 testing

6 delivery & maintenance

Fish model

BRS - Business Requirement Specification

SRS - Software Requirement Specification

HLD - High-Level Design

LLD - Low -Level Design

Coding ----> White Box Testing

Testing ---> Black Box Testing

Maintenance ---> testing software changes

Reviews

1 walkthrough

2 inspection

3 peer review

4 informal review

5 technical review

White Box Testing/unit testing /open box testing/ glass box testing / clear box testing

1 basic path testing

2 control structure testing

3 program technique testing

4 mutation testing

Black Box Testing / system testing / functional testing

1 usability testing

2 functional testing

3 performance testing

4 security testing

1 usability testing

a) GUI (graphical user interface)

b) Manual support

2 Functional testing

a) functionality

1 behavioural coverage

2 input domain coverage

3 Error Handling coverage

4 Backend Coverage / database testing

a) data manipulation

b) data validation

c) table structure validation

5 Service level coverage

6 Calculation based coverage

b) non - functionality

1 Recovery testing / Reliable testing

2 compatibility testing / portability testing

a) forward compatibility

b) backward compatibility

3 configuration testing / hardware compatibility testing

LAN...WAN...MAN

4 inter system testing

5 installation testing

6 sanitation testing / garbage testing

7 parallel testing / comparison

8 globalization testing / language compatibility

9 load testing

10 stress testing

11 data volume testing

12 parallel testing

3 performance testing

a) load testing

b) stress testing

c) storage testing

d) data volume testing

e) endurance testing

4 security testing

a) authorization

b) access control (authentication)

c) encryption & decryption

Testing Terminology

1 Monkey testing

2 exploratory testing

3 Adhoc testing

4 big bang testing

5 defect seeding / debugging

static testing vs dynamic testing

software development life cycle models

1 waterfall model

2 V model

3 agile

1 waterfall model

1 requirement gathering

2 requirement analysis

3 system design

4 coding / implementation

5 testing

6 deployment

7 maintenance

2 V model

a) user requirement vs acceptance testing

b) software requirement vs system testing

c) design vs integration testing

d) coding vs unit / WBT

Software testing level

a) unit testing

b) integration testing

- 1 top down approach
- 2 bottom up approach
- 3 Hybrid approach

c) system testing

d) Acceptance testing

- 1) internal acceptance testing (alpha testing)
- 2) external acceptance testing / user acceptance testing (beta testing)

test design techniques / test case design technique / test data design technique

- 1) equivalent class partitioning (ECP)
- 2) boundary value analysis
- 3) decision table based testing
- 4) state transition
- 5) error guessing