TEST DATA MANAGEMENT:

- **Test Data Management (TDM) is the process for providing controlled data access to modern teams throughout the Software Development Lifecycle (SDLC).**
- **It'S A revolution in software industry to empower testers.**

COMPONENTS OF TDM:

- **Identifying**
- **Acquiring**
- **Conditioning**
- **Provisioning**
- **Maintaining**

TEST DATA:

- **Test data is nothing but input data being used to testing it.**
- **Good test coverage is totally depend upon the test data, without this quality test data can not guarantee the test completeness.**
- **Especially the complex testing area SUCH AS Banking and finance area testing is completely rely on the critical test data.**

USES:

- **Test data management tools are very much useful for the application which are business critical function.**
- **The test data covers various aspects in functional testing(small volume) or(high volume) performance testing.**
- **Positive flows(with all positive test data)**
- **Negative flows (with all invalid test data)**
- **Exception flow(here it make of boundary of the data to validate the exception.**

DATA TRANSFORMATION:

1. Data Sub-setting:

That is condense or prepare test data so that it is both smaller & easier to handle.

2. Data Masking / Data Privatization:

Protect data & protect customer through obfuscating sensitive data

Eg: sensitive customer data.

Note: Masking will usually use a copy of the original sensitive data i.e. production data. And by data masking, Eg, data encryption, you are implementing data privacy to reduce the opportunity for a data breach.

3. Test Data Provisioning:

The deployment of test data.

4. Data Cloning or Data Virtualization:

The concept of snapshotting & deploying "tiny" replica databases.

Note: Data cloning is rapidly displacing the need for test data subsetting. Cloning can also be used beyond software testing and against real data.

5. Data Fabrication / Data Synthetics:

A method of test data preparation. Create test data using a data generation tool to create synthetic data (fake test data), from scratch.

6. DataOps:

Any data operation that will help orchestrate data activities e.g. export, import, snapshot.

7. Test Data Mining:

This method to support ease of data access & helping software testing teams find sample data for testing.

Note: Data mining can also be used to reduce the opportunity for data breaches by limiting what can be mind.

TEST ENVIRONENT MANAGEMENT

- **A testing environment is a setup of software and hardware for the testing teams to execute test cases.**
- **It supports test execution with**
    - **server**
    - **hardware,**
    - **software**
    - **network configured.**

TEST BED OR TEST ENVIRONMENT:

- **It is configured as per the need of the Application Under Test.**
- **On a few occasion, test bed could be the combination of the test environment and the test data it operates.**