**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.**