**Session 1 :**

**What is UVM?**

* **UVM** stands for **Universal Verification Methodology**.
* It’s a standard way to check if computer chips and digital designs work correctly.
* UVM is built using the SystemVerilog language.
* It helps engineers create testbenches (special programs to test chips) that are easy to reuse and combine.
* UVM is now the most common method used by chip designers to make sure their designs are correct.

**What Was Used Before UVM?**

* Before UVM, people used something called **OVM** (Open Verification Methodology).
* OVM also helped test chips and was based on SystemVerilog.
* UVM replaced OVM in 2011 because it was more flexible and better suited for different testing needs.

**Why Did UVM Replace OVM?**

* **Standardization:** OVM wasn’t an official standard, so different companies had trouble working together. UVM became the official standard.
* **Flexibility:** OVM mainly worked for one type of testing (TLM). UVM works for many types, making it more useful.
* **Reusability:** UVM makes it easier to reuse pieces of testbenches, saving time and effort.
* **Maintainability:** UVM is easier to update and fix without breaking old testbenches.

**What Does UVM Include?**

* **Testbench Components:** Ready-made building blocks like drivers and monitors that you can use to build your testbenches.
* **Transactions:** Ways to send information between your testbench and the chip you’re testing.
* **Phases:** Steps that control when and how things happen during testing.
* **Messaging and Reporting:** Tools to show warnings, errors, and other messages during testing.
* **Configuration:** A way to store settings and options for your testbench.
* **Functional Coverage:** Tools to check if you’ve tested everything you need to.
* **Register Abstraction Layer:** Makes it easier to work with registers (special storage areas in chips).

**In short:**  
UVM is a modern, standard way to test computer chips. It replaced older methods like OVM because it’s more flexible, reusable, and easier for everyone to use. UVM comes with lots of useful tools to make testing faster and more reliable.