**Acceptance Testing**

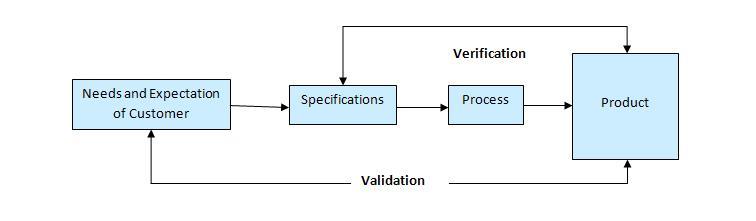
After the system test has corrected all or most defects, the system will be delivered to the user or customer for Acceptance Testing or User Acceptance Testing (UAT).

* Acceptance testing is basically done by the user or customer although other stakeholders may be involved as well.
* The goal of acceptance [testing](http://istqbexamcertification.com/what-is-a-software-testing/) is to establish confidence in the system.
* Acceptance testing is most often focused on a validation type testing.
* Acceptance testing may occur at more than just a single level, for example:
  + A Commercial Off the shelf (COTS) software product may be acceptance tested when it is installed or integrated.
  + Acceptance testing of the [usability of the component](http://istqbexamcertification.com/what-is-usability-testing-in-software-and-its-benifits-to-end-user/) may be done during component testing.
  + Acceptance testing of a new functional enhancement may come before [system testing](http://istqbexamcertification.com/what-is-system-testing/).
* The types of acceptance testing are:
  + The User Acceptance test: focuses mainly on the functionality thereby validating the fitness-for-use of the system by the business user. The user acceptance test is performed by the users and application managers.
  + The Operational Acceptance test: also known as Production acceptance test validates whether the system meets the requirements for operation. In most of the organization the operational acceptance test is performed by the system administration before the system is released. The operational acceptance test may include testing of backup/restore, disaster recovery, maintenance tasks and periodic check of security vulnerabilities.
  + Contract Acceptance testing: It is performed against the contract’s acceptance criteria for producing custom developed software. Acceptance should be formally defined when the contract is agreed.
  + Compliance acceptance testing: It is also known as regulation acceptance testing is performed against the regulations which must be adhered to, such as governmental, legal or safety regulations

**Verification**

Verification makes sure that the product is designed to deliver all functionality to the customer.

* Verification is done at the starting of the development process. It includes [reviews](http://istqbexamcertification.com/what-are-the-types-of-review/) and meetings, [walk-throughs](http://istqbexamcertification.com/what-is-walkthrough-in-software-testing/), [inspection](http://istqbexamcertification.com/what-is-inspection-in-software-testing/), etc. to evaluate documents, plans, code, requirements and specifications.
* Suppose you are building a table. Here the verification is about checking all the parts of the table, whether all the four legs are of correct size or not. If one leg of table is not of the right size it will imbalance the end product. Similar behavior is also noticed in case of the software product or application. If any feature of software product or application is not up to the mark or if any [defect](http://istqbexamcertification.com/what-is-defect-or-bugs-or-faults-in-software-testing/) is found then it will [result into the failure](http://istqbexamcertification.com/from-where-do-defects-and-failures-in-software-testing-arise/) of the end product. Hence, verification is very important. It takes place at the starting of the development process.

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Software verification and validation

* It answers the questions like: Am I building the product right?
* Am I accessing the data right (in the right place; in the right way).
* It is a Low level activity
* Performed during development on key artifacts, like walkthroughs, reviews and inspections, mentor feedback, training, checklists and standards.
* Demonstration of consistency, completeness, and correctness of the software at each stage and between each stage of the development life cycle.

According to the [Capability Maturity Model (CMM)](http://istqbexamcertification.com/what-is-cmm-capability-maturity-model-what-are-cmm-levels/) we can also define verification as the process of evaluating software to determine whether the products of a given development phase satisfy the conditions imposed at the start of that phase. [IEEE-STD-610].

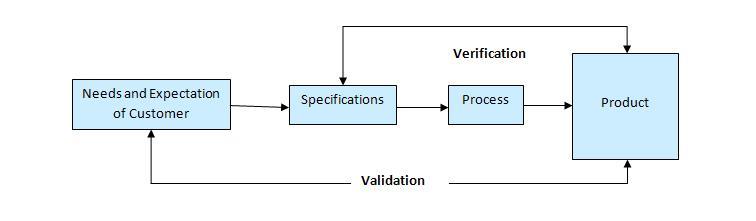
Advantages of Software Verification :

1. Verification helps in lowering down the count of the defect in the later stages of development.
2. Verifying the product at the starting phase of the development will help in understanding the product in a better way.
3. It reduces the chances of failures in the software application or product.
4. It helps in building the product as per the customer specifications and needs.

**Validation**

Validation is determining if the system complies with the requirements and performs functions for which it is intended and meets the organization’s goals and user needs.

* Validation is done at the end of the development process and takes place after [verifications](http://istqbexamcertification.com/what-is-verification-in-software-testing-or-what-is-software-verification/) are completed.
* It answers the question like: Am I building the right product?
* Am I accessing the right data (in terms of the data required to satisfy the requirement).
* It is a High level activity.
* Performed after a work product is produced against established criteria ensuring that the product integrates correctly into the environment.
* Determination of correctness of the final software product by a development project with respect to the user needs and requirements.



Software verification and validation

According to the [Capability Maturity Model (CMM)](http://istqbexamcertification.com/what-is-cmm-capability-maturity-model-what-are-cmm-levels/) we can also define validation as The process of evaluating software during or at the end of the development process to determine whether it satisfies specified requirements. [IEEE-STD-610].

A product can pass while verification, as it is done on the paper and no running or functional application is required. But, when same points which were verified on the paper is actually developed then the running application or product can fail while validation. This may happen because when a product or application is build as per the specification but these specifications are not up to the mark hence they fail to address the user requirements.

Advantages of Validation:

1. During verification if some [defects](http://istqbexamcertification.com/what-is-defect-or-bugs-or-faults-in-software-testing/) are missed then during validation process it can be caught as failures.
2. If during verification some specification is misunderstood and development had happened then during validation process while executing that functionality the difference between the actual result and expected result can be understood.
3. Validation is done during testing like feature testing, integration testing, system testing, load testing, compatibility testing, stress testing, etc.
4. Validation helps in building the right product as per the customer’s requirement and helps in satisfying their needs.

Validation is basically done by the testers during the testing. While validating the product if some deviation is found in the actual result from the expected result then a bug is reported or an [incident is raised](http://istqbexamcertification.com/what-is-an-incident-in-software-testing/). Not all incidents are bugs. But all bugs are incidents. Incidents can also be of type ‘Question’ where the functionality is not clear to the tester.

Hence, validation helps in unfolding the exact functionality of the features and helps the testers to understand the product in much better way. It helps in making the product more user friendly.