

Software Engineering

The systematic Approach to the design, development, operation, and maintenance of a software system

Objectives of Software Engineering

1. **Maintainability** – the ease with which changes in a functional unit can be performed in order to meet prescribed requirements.
2. **Correctness** – the extent to which software meets its specified requirements
3. **Reuseability** – the extent to which a module can be used in multiple applications.

Objectives of Software Engineering

4. **Testability** – the extent to which software facilitates both the establishment of test criteria and the evaluation of the software with respect to those criteria.
5. **Reliability** – an attribute of software quality. The extent to which a program can be expected to perform its intended function, over an arbitrary time period.

Objectives of Software Engineering

6. **Portability** – the ease with which software can be transferred from one computer system or environment to another.
7. **Adaptability** – the ease with which software allows differing system constraints and user needs to be satisfied by making changes to the software.

Software Engineering Principle

A tool or methodology employed to assist software developers in reaching the objectives of software engineering.

Software Engineering Principle

- Examples
 - Modularity
 - Hierarchical Decomposition
 - Functional Decomposition
 - Information Hiding