Waterfall Model :

Waterfall – is a cascade SDLC model, in which the development process looks like the flow, moving step by step through the phases of analysis, projecting, realization, testing, implementation, and support. This SDLC model includes gradual execution of every stage completely. This process is strictly documented and predefined with features expected to every phase of this software development life cycle model.
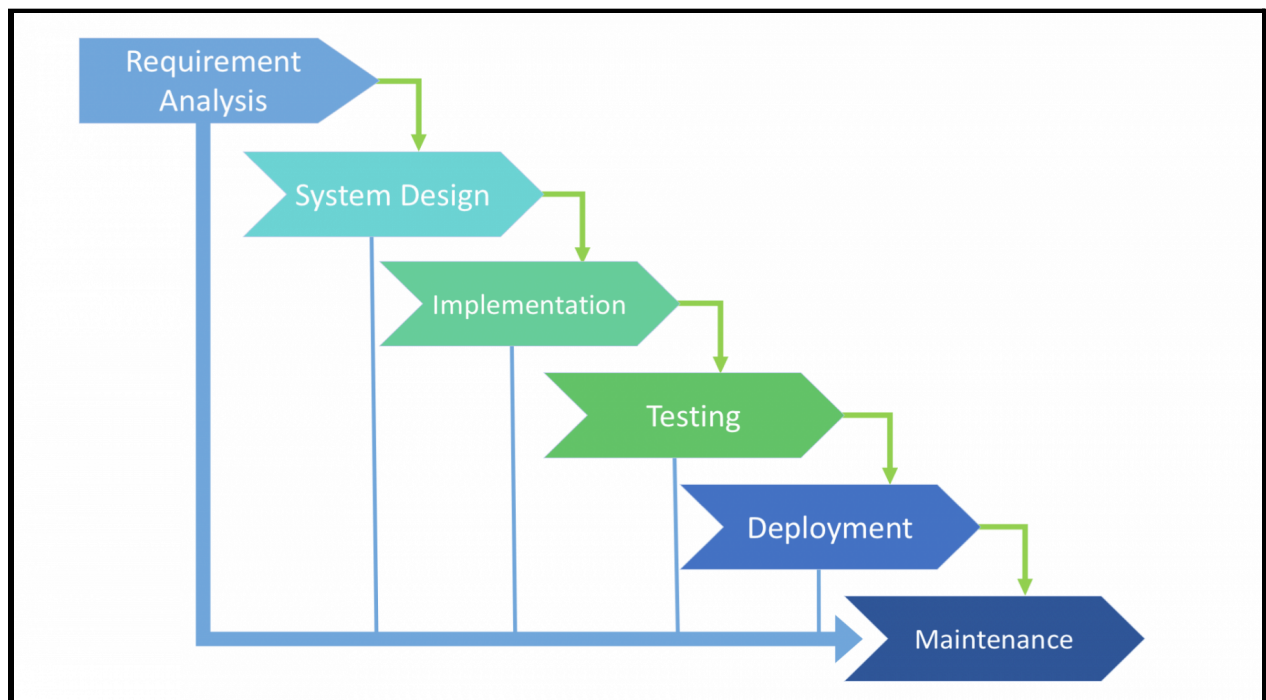

Fig.1: Waterfall Model

The following are the Advantages and Disadvantages of Waterfall Model:

Advantages	Disadvantages
Simple to use and understand.	The progress of the stage is hard to measure.
Every phase has a defined result and process review.	The software is ready only after the last stage is completed.
Development stages go one by one	High risks and uncertainty.
Perfect for small or mid-sized projects where requirements are clear and fixed.	Not the best for complex and object-oriented projects.
It provides a systematic and sequential approach to software development.	Any changes can be made only at the beginning.

V-Shaped Model :

The V-shaped SDLC model is an expansion of the classic waterfall model and it's based on the associated test stage for every development stage. This is a very strict model and the next stage is started only after the previous phase. This is also called the "Validation and verification" model. Every stage has the current process control, to make sure that the conversion to the next stage is possible.
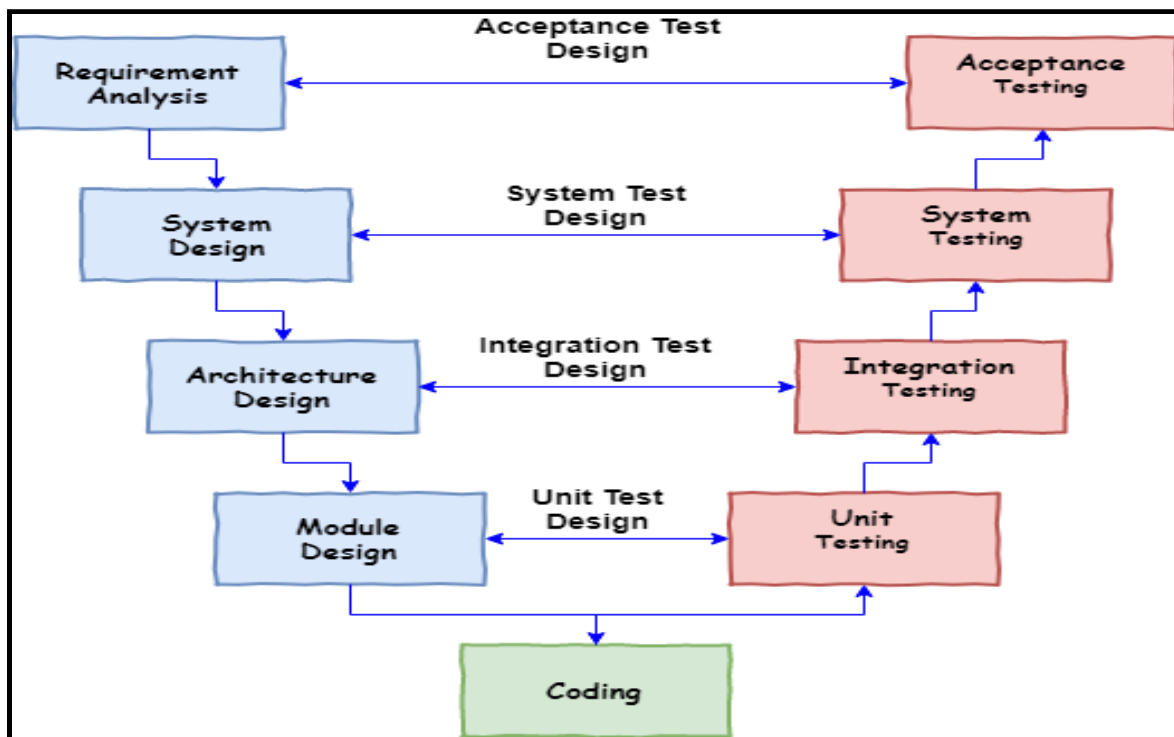

Fig 2: V-Shaped Model

The following are Advantages and Disadvantages of V-Shaped Model :

Advantages	Disadvantages
More Flexible than a pure waterfall Model.	It does not easily handle concurrent events.
Easy to use.	It is not suitable for complex projects.
Every stage of the V-shaped model has strict results so it's easy to control.	It does not contain risk analysis activity.
Testing and verification take place in the early stages.	It does not easily handle dynamic changes in requirements.
Project management can track progress.	Once an application is in the testing stage, it is difficult to go back and change a functionality.