Waterfall Model: SDLC (software development life cycle)

Waterfall Model : SDLC (software development life cycle)

- The waterfall model is a well known and good version of SDLC (Systems Development Life Cycle) for software engineering.
- The waterfall model is a linear and sequential model,
- which means that a development phase cannot begin until its previous phase is completed.
- We cannot overlap phases in the waterfall model.

Waterfall Model : SDLC (software development life cycle)

- “We can imagine the waterfall in the following way:-
- Once the water starts flowing over the edge of the rock and starts falling towards the bottom of the mountain and this water cannot go back upstairs.”

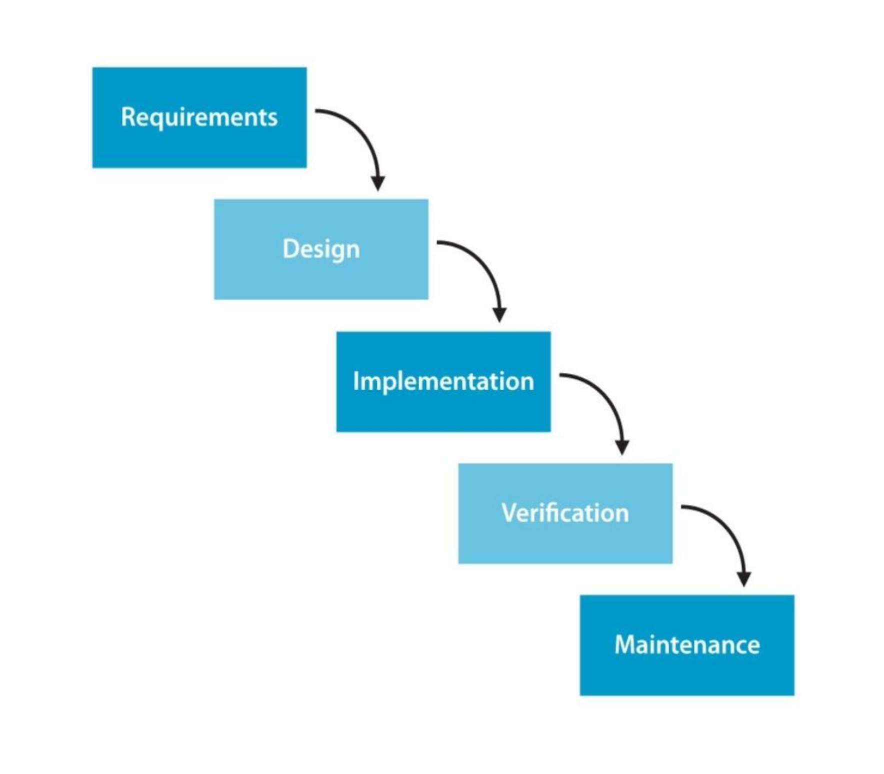
Waterfall Model : SDLC (software development life cycle)

- Similarly, the waterfall model also works, once one phase of development is completed,
- we move to the next phase but cannot go back to the previous phase.
- In the waterfall model, the output of one phase acts as the input for the other phase.
- The waterfall model consists of the following 5 phases:

Waterfall Model : SDLC (software development life cycle)

1:-Requirement phase:-

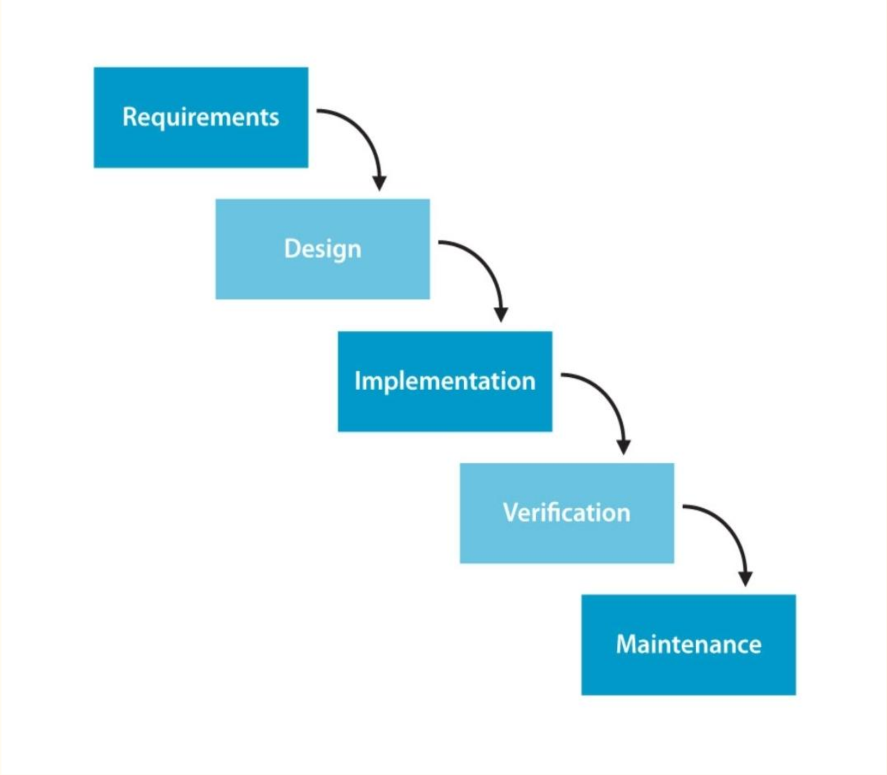
- The requirement phase is the first phase of the waterfall model.
- In this phase the requirements of the system are collected and documented.
- This phase is very crucial because the next phases are based on this phase.



Waterfall Model : SDLC (software development life cycle)

2:-Design phase:-

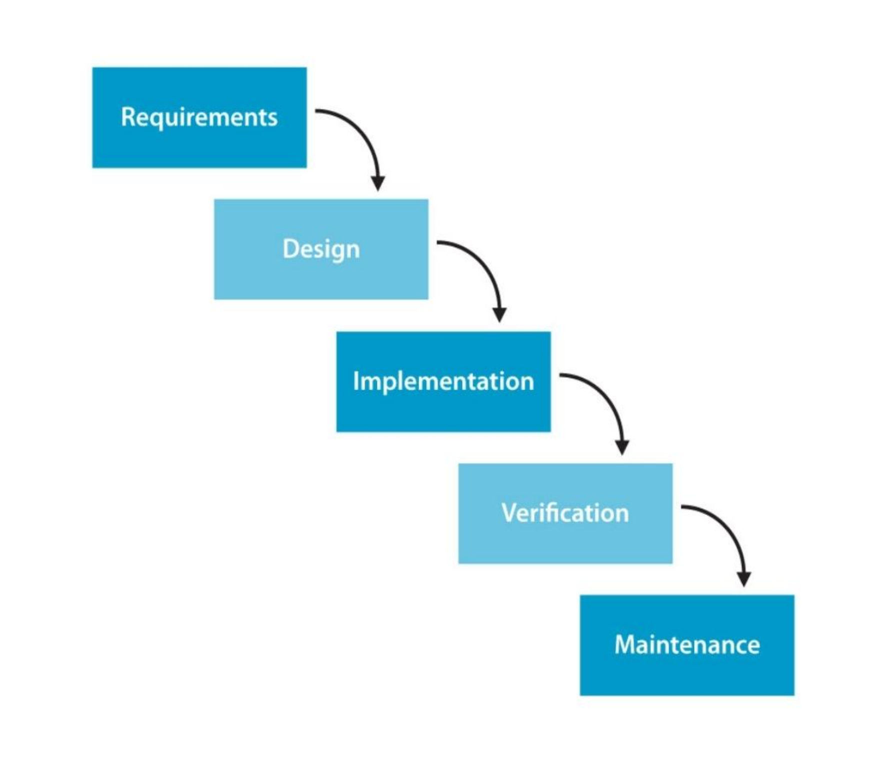
- The design phase is based on how the software will be built.
- The main objective of the design phase is to prepare the blueprint of the software system,
- so that there is no problem of any kind in the coming phases
- and solutions are found for whatever requirements are there in the requirement phase.



Waterfall Model : SDLC (software development life cycle)

3:-Implementation phase:-

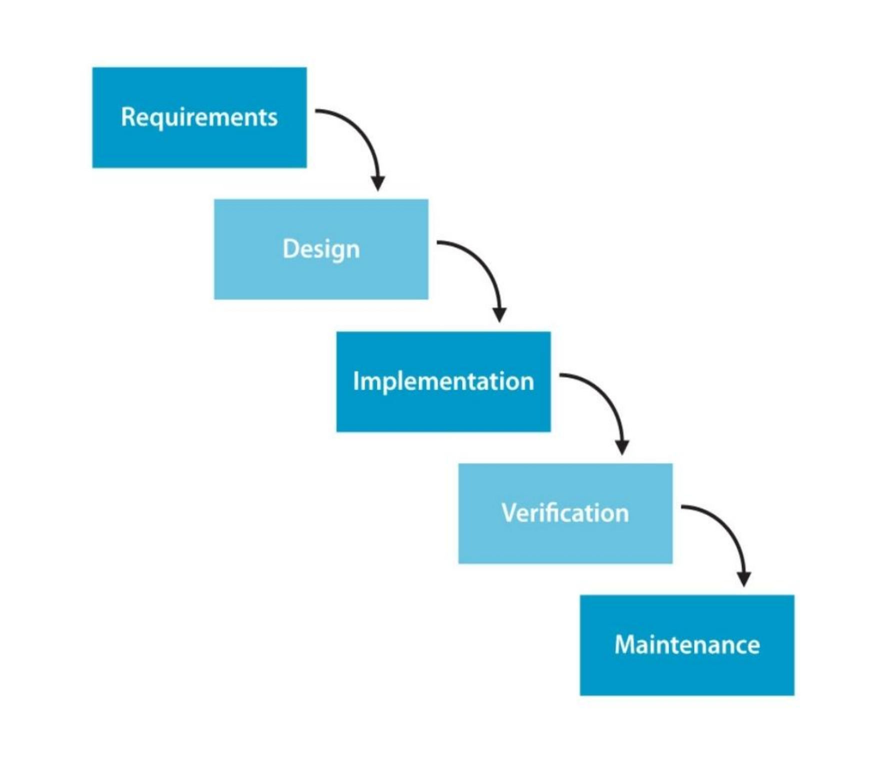
- In this phase hardware, software and application programs are installed and database design is implemented.
- Software has to go through testing, coding, and debugging processes before the database design can be implemented.
- This is the longest lasting phase in the waterfall.



Waterfall Model : SDLC (software development life cycle)

4:-verification phase:-

- In this phase the software is verified,
- and it is evaluated that we have made the right product.
- Various types of testing are done in this phase
- and every area of the software is checked.
- Suppose if we have not verified the software properly and if any defect remains in it,
- then no one will use it, so verification is very important.
- One advantage of verification is that it reduces the risk of software failing.



Waterfall Model : SDLC (software development life cycle)

5:-Maintenance phase:-

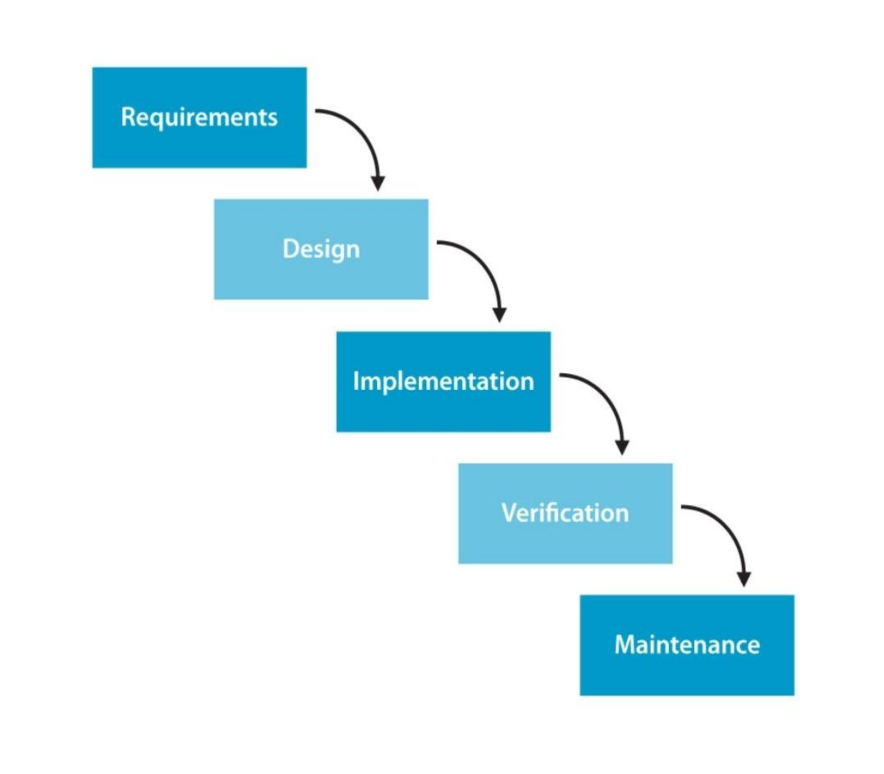
- This is the last phase of the waterfall.
- When the system is ready and users start using it,
- then the problems that come in it have to be solved time-to-time.
- Taking care of the finished software according to time and maintaining it is called maintenance.
- There are three types of maintenance in SDLC:-

__1. Corrective maintenance__

__2. Adaptive maintenance__

__3. Perfective maintenance__

__4. Preventive maintenance__



Waterfall Model : SDLC (software development life cycle)

* Maintenance means if there is any change in the software, then the use has to be improved.

- 1. The waterfall model cannot be used practically in product development.
  - Because there was a requirement analysis in it, after that now we went to the design phase, after that it was found that there was an error in the requirement analysis.
  - Now we cannot correct those errors by going to the requirement analysis phase by going to the design phase.
  - If an error occurs, then we have to start the whole process again.
  - That's why this model is used as the only ideal model.
  - Do not do it for software development.

- 2. To remove this draw back, an iterative waterfall model was created in which this solution is given.
  - That if an error occurs, then the use can be corrected again.

Waterfall Model : SDLC (software development life cycle)

Advantage of waterfall model

- It is easy to use and understand the waterfall model.
- In this model, only after one phase is completed, the second phase starts.

- All the requirement should be correct, if any error comes then error will come in all other phases. So there will be clearly outline projects. This help can be full for those whose requirement will be clear.

Waterfall Model : SDLC (software development life cycle)

Disadvantage of waterfall model

- not use for big project.
- It cannot be changed according to the requirement, so it is a little flexible, once whatever has happened, it will start working on it, you cannot change it.
- Once the phase is complete, the father cannot go back.
- Until the whole life cycle is completed. Till then the phase form requirement and maintance are not done. Till then our working model will not be ready.
- Requirement: - This model is applicable to those requirements which we can understand well.
- Risk:- There is a high risk in the waterfall model.
- There is no user communication.
- It is very difficult to change in this model. If you want to change then all the phases have to be started again.
- Availability of model: - In this, when all the phases of the software life cycle are completed. Then the working model is found.