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Roll No :- 88

SEPM
Exp 1 :-

Waterfall Model :-

There are times when the requirements of a problem are well understood - when work flows from communication through deployment in a reasonably linear fashion This situation is sometimes encountered when well defined adaptations or enhancements to an existing system must be made.

The waterfall model sometimes called the classic life - cycle, suggests a systematic sequential approach to software dev efforts that begins with customer specifications of requirements and progressing through planning, modeling, construct and deployment.

Advantages :-
- Easy to work with
- Not expensive

Disadvantages :-
- Not suitable for larger projects.
- Involves high risk factor.

The waterfall model :-

→ Communication

      └→ Planning

            └→ Modeling

                    └→ Construction

                            └→ Deploy.
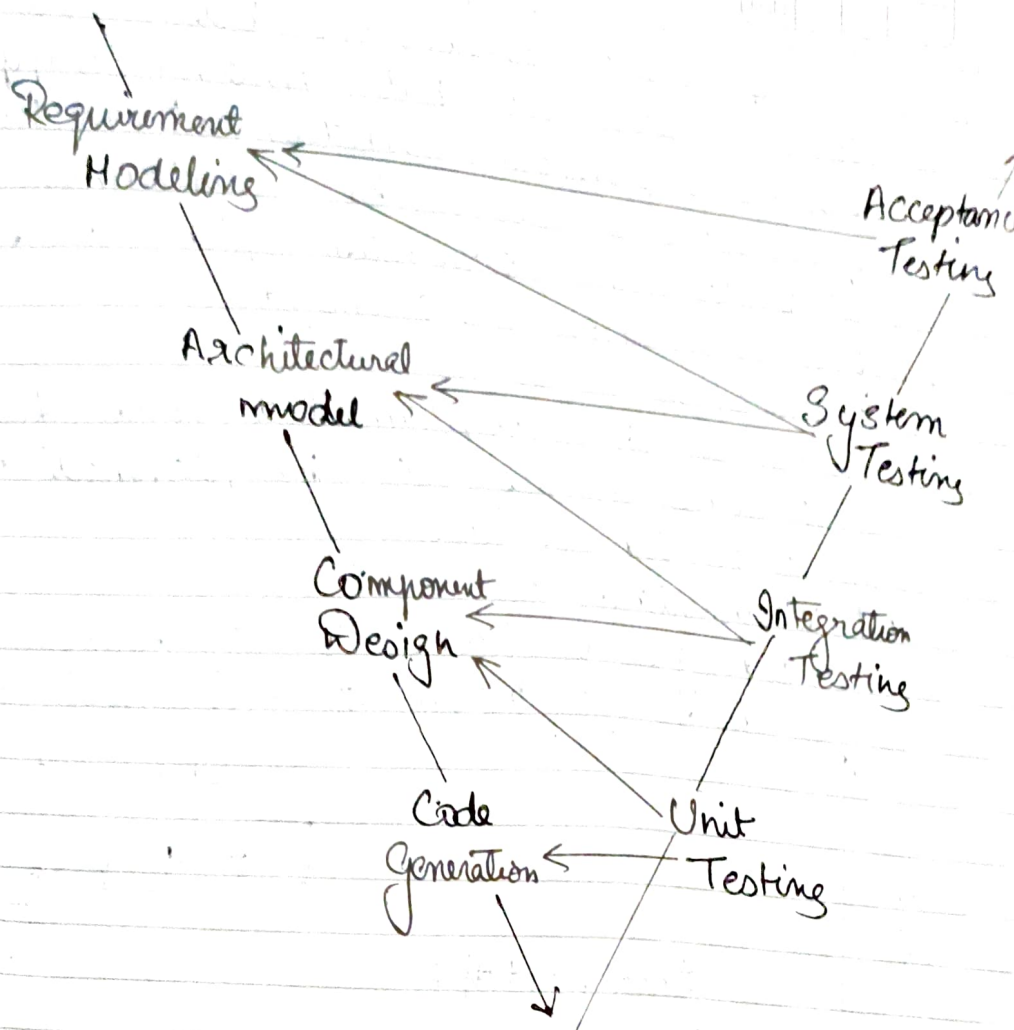
V- model :-

A variation in the representation of the
waterfall model is called the V-model.
It depicts the quality assurance actions
associated with communication, modeling
and early construction activities. As a softwa
-re team moves down the left side of
V, basic problem requirements are define
into progressively more detailed and
technical representations of the problem
and its solution. Once we move up
the right side of V, we essentially
perform a series of test which validate
each of the model created by the
team moved down on left side.
The difference with waterfall model is
that V-model provides a way to
visualise how verification & validation
process are applied to earlier
engineering work.

Requirement
Modeling

Acceptance
Testing

Architectural
model

System
Testing

Component
Design

Integration
Testing

Code
Generation

Unit
Testing

Incremental Process Model :-

The incremental model combines the
elements of linear and parallel process
flows. The incremental model applies
linear sequence in a staggered fashion
as calendar time progresses. Each linear
sequence produces deliverable "increments"
of the software in a manner that
is similar to the increments provided
by an evolutionary process flow.
When an incremental model is
used, the first increment is often a

core product. That is, basic requirements are addressed but many supplementary features remain undelivered. The core product is used by customer. As a result an evolution plan is developed for the next increment.

Advantage :-
  - Can be implemented with fewer people
 - Increments can be planned to manage technical risks.

Disadvantage :-
  - A good team is required
  - As we increment the cost increases

Increment # n

Increment # 2

Increment #1

Software Func & Feature

Project Calendar Time.
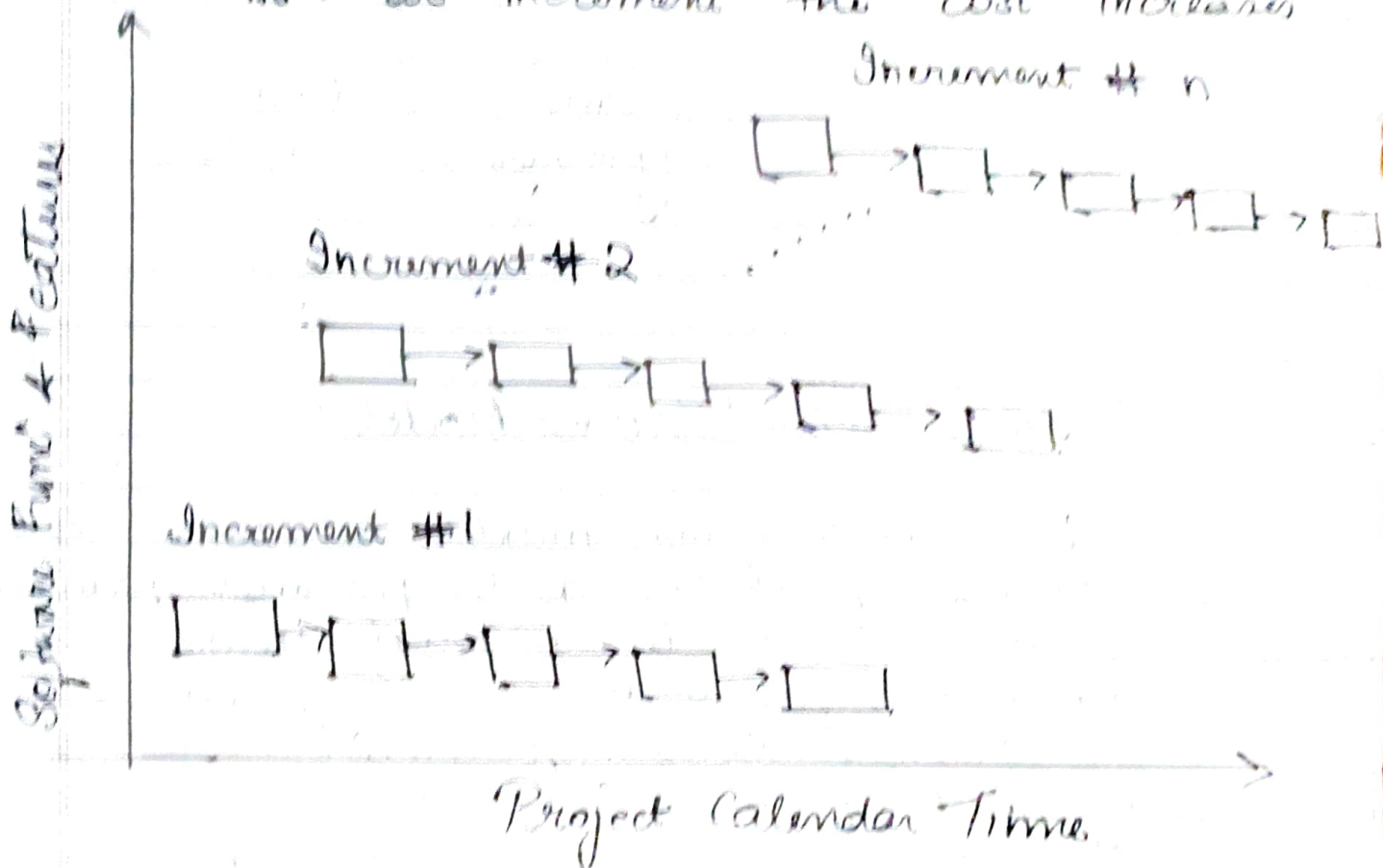
Spiral Model :-

The spiral development model is a risk - driven process model generator that is used to guide multi-stake -holder concurrent engineering of software intensive systems. It has two main distinguishing features. One is cyclic approach for incrementally growing a system's degree of definition and implementation while decreasing the degree of risk. The other is set of anchor points / milestones for ensuring stake -holder commitment to feasible and mutually satisfactory system solutions.

Using the spiral model, software is developed in a series of evolutionary releases. During early iterations, the release might be a model cg prototype. During later iterations increasingly more complete versions of the engineered system are produced.

Communication
Planning
Modeling
Construction
Deployment
Start
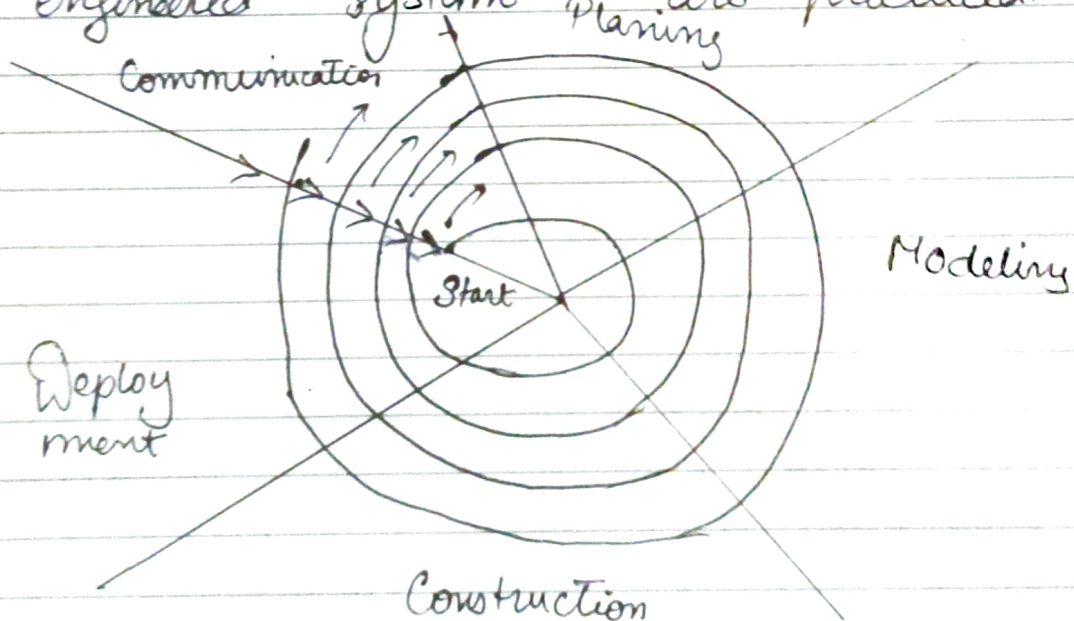
Advantages :-
- The models nature allows for continuous assesment & management of risk
- Early error detection is possible

Disadvantage :-
- The spiral model is more complex than other models
- It is often difficult to know how many phases the project will require.