System Analysis & Data Processing

Unit--1

Software Life Cycle

SOFTWARE(S/W)

1). The collection of computer program ,procedure ,rules and associated documentation and data.

2).Regarding development software can be classified into two categories:-

    A).Simple Software   B).Industrial Strength Software

A) Simple Software

1).It is generally a small program such as payroll system of an organization.

2).These programs are usually designed develop used and maintained by the same person.

B) Industrial Strength Software

1).A development team using some systematic approach develops usually quality software systems,called Industrial Strength Software.

2). These systems are used by very large no. of users from different background working on various platform.

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SOFTWARE ENGINEERING

1).It is a field of computer science , that deals with the construction of large,complex,industrial strength software system.

2).Software engineering means development of software.

3).Software engineering is the systematic approach to the development , maintenance and retirement of the Software.

Software Life Cycle

During the period of development the software undergoes several phases. Each of these phases result in the development of either part of the system or preparation of a test plan or a user-manual etc.

For the development of software there are several Model such as:-

1).Waterfall Model

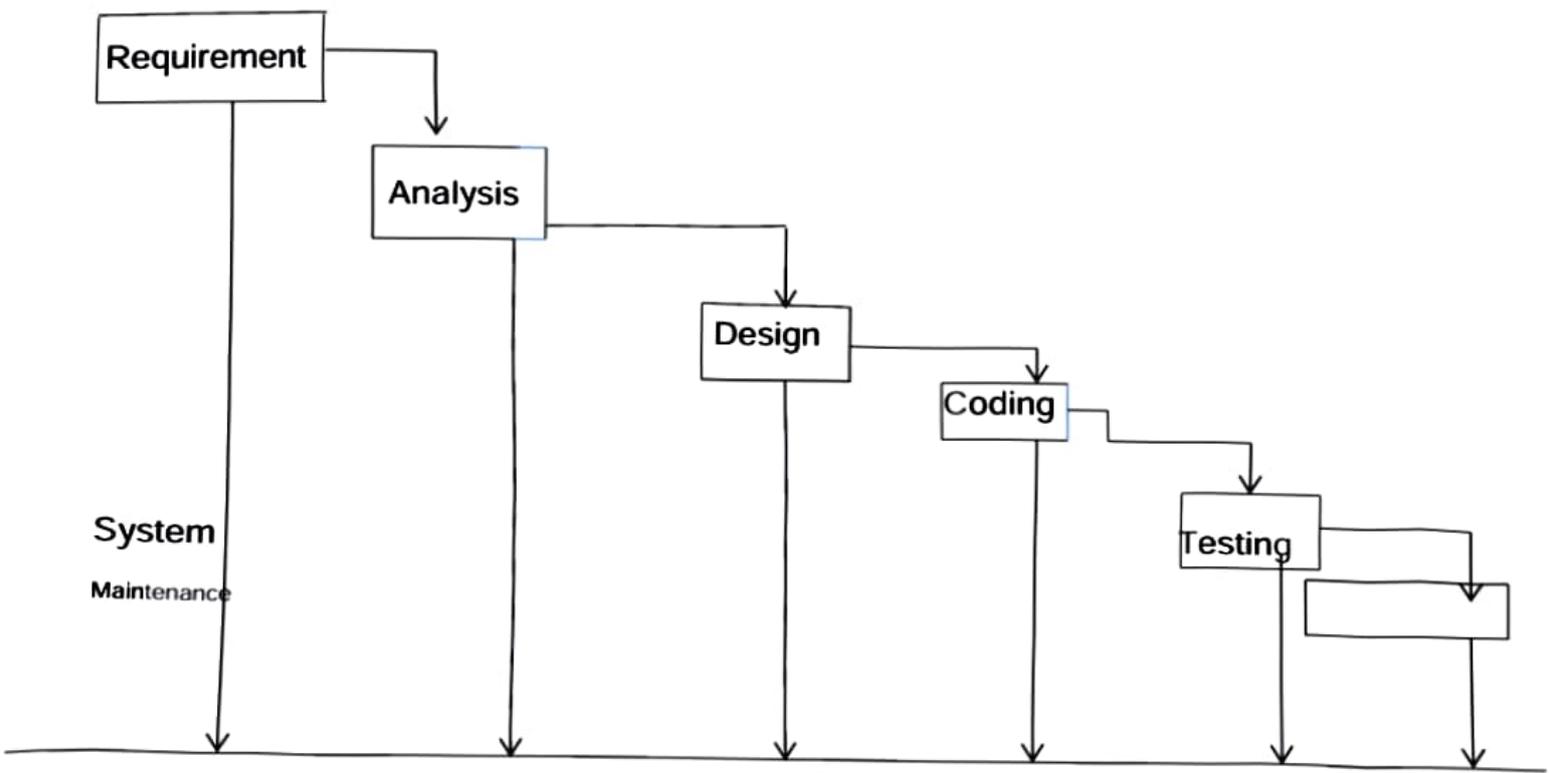## 2).Prototype Fourth Gen. Technique / Model.

3).Spiral Model.

Any organization can follow any suitable Model Diff. process can have different set of activity.

1).Waterfall Model / Paradigms.

a). It is the simple process Model.

b). It is most widely used process model.

c).It is also known as Linear Sequential Model because the phase are organized in Linear order.

d).The waterfall model most widely popular model.

e).It is well-suited for routine type of project where all the requirement are all well-understood.

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┌──────────────┐
│ Requirement  │────┐
└──────┬───────┘    ↓
       │      ┌──────────────┐
       │      │   Analysis   │───┐
       │      └──────┬───────┘   ↓
       │             │     ┌──────────────┐
       │             │     │   Design     │───┐
       │             │     └──────┬───────┘   ↓
       │             │            │    ┌──────────────┐
       │             │            │    │   Coding     │──┐
       │             │            │    └──────┬───────┘  ↓
  System            │            │           │  ┌──────────────┐
                    │            │           │  │  Testing     │──┐
  Maintenance       │            │           │  └──────┬───────┘  ↓
       │            │            │           │         │  ┌────────────┐
       │            │            │           │         │  │            │
       ↓            ↓            ↓           ↓         ↓  └─────┬──────┘
                                                                ↓
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Work of Model or Software Life Cycle

←——————————————————————→

1).Requirement:-

The 1st phase of Model , estimating requirement for all the system element and what are the requirement of the software.

2).Analysis:-

To understand the nature of the program to built the system analyst must understood the information domain for the software as well as required function performance interfacing requirement of the system are documentant and received with the customer.

3).Design:-

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The design process / concept translate requirement into the representation of software. Design is actually a multi-stepped process that focuses on four(4) distinct attributes of the program.

Data Structure, Software Architecture, Procedural detail Interface and Characterisation.

4).Coding:-

The design must be translated into Machine readable form. The coding step had performed the task.

5).Testing:-

Once the code has been generated and compiled the program testing is actually reffered to as Module Testing of the System.

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6).Maintenance:-

Software is undoubtly undergoes changes after it is implemented . Software maintenance replies the proceeding steps to an existing program rather than a new one.

2).Prototype Model:-

.Change and Addition always.

.Build New Model.

.Idea of New System.

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