



**Assignment : 01**

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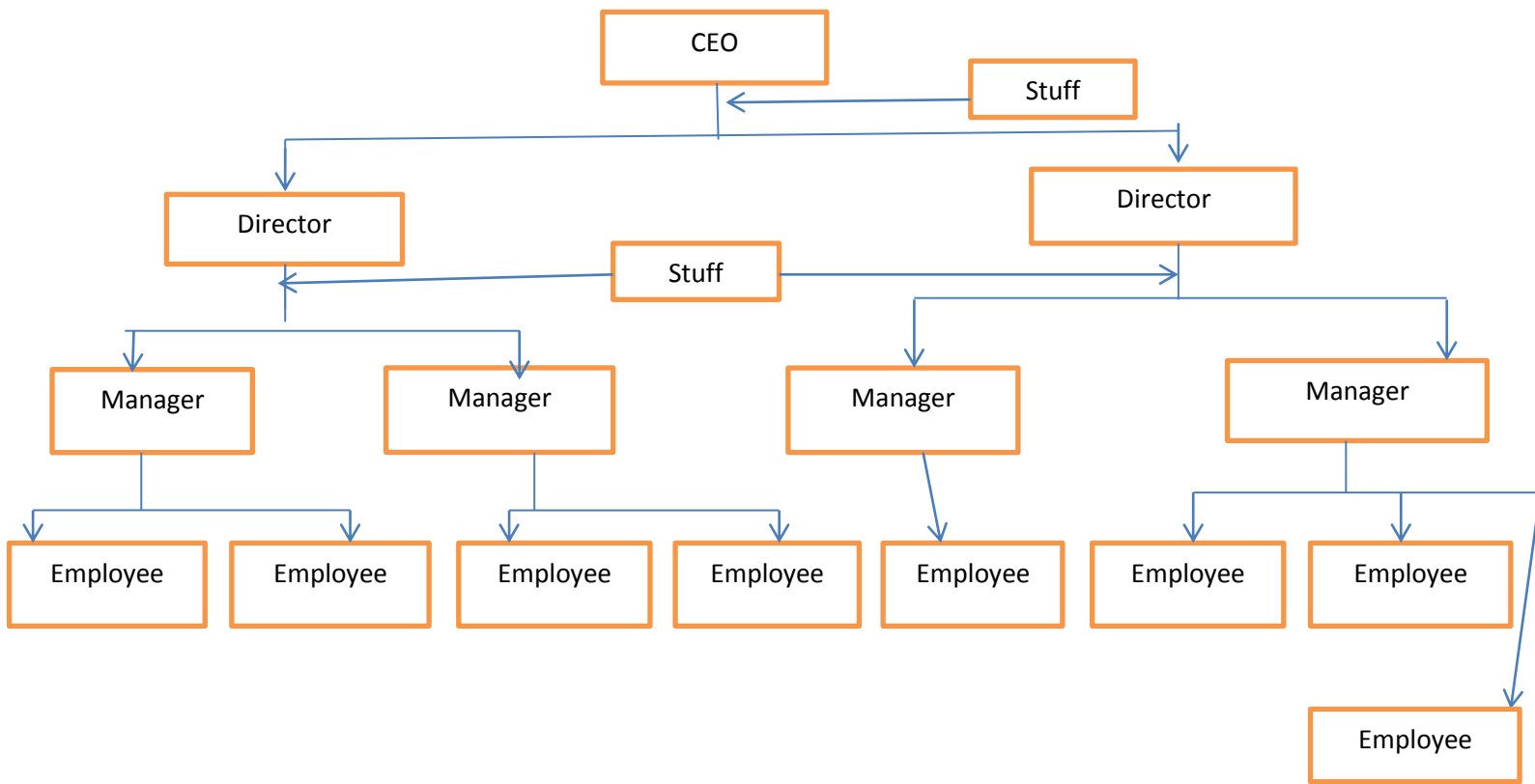
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**Q.1: Define organization; also explain the structure of an organization by giving an example of a well known organization.( Note: every student should take the example of different organization from another).**

**Ans: Organization:.** Organization is an entity, such as a company, an institution, or an association, comprising one or more people and having a particular purpose. The word is derived from the Greek word organon, which means tool or instrument, musical instrument, and organ.

### Example: Line and Staff Organizational Structure:



- To understand this structure, we first need to understand what “staff “ means in this context. Staff members are advisors. They provide technical information, advice, and opinions. They may be able to authorize certain activities, and they might compile reports that help with decision-making.
- This type of organizational structure works best for companies in specialist fields. Its typical of businesses who need experts in knowledge areas like engineering, science, laws, or insurance.

### Q.2: Explain System Development Life Cycle; also explain different types System development life cycle.

**Ans: SDLC:** The systems development life cycle (SDLC) is the overall process of developing information systems through a multi-steps process from investigation of initial requirements through analysis, implementation, and maintenance. SDLC is also known as information systems development or application development. SDLC is a system approach to problem solving and is made up of several phases, each comprised of multiple steps. It describes the stages a system passes through from inception until it is discarded or replaced. SDLC provides

1. Structure
2. Methods
3. Controls
4. Checklist

### **Types of System Development Life Cycle( SDLC):**

The concept of system development life cycle has been explained in various shapes and forms. The concluding form follows the same spirit except for minor differences.

**Waterfall Model:** The waterfall model is a software development model ( a process for the creation of software) in which development is seen as flowing steadily downwards( like a waterfall) through the various phases.

**Incremental Models:** In incremental models, software is built not written. Software is constructed step by step in the same way a building is constructed. The products is designed, implemented, integrated and tested as a series of incremental builds, where a build consists of code pieces from various modules interacting together to provide a specific functional capability and testable as a whole.

**Iterative Models:** In these models customer feedback is taken at each phase and project is modified accordingly- if need be. Prototypes are used in these models.

### **Q.3: Explain Incremental model and spiral; also explain main deference between spiral and incremental model.**

**Ans: Incremental Model:** The incremental modal is a method of software/ information system development where the model is designed, implemented, and tested incrementally until the product is finished. It involves both development and maintenance. This model combines the elements of the waterfall model with the philosophy of ptotyping.

**Spiral Model:** Spiral model is an iterative approach to system development. This spiral lifecycle model is a combination of the classic waterfall model and aspects of risk analysis. This model is very appropriate for large and complex information systems. The spiral model emphasizes the need to go back and reiterate earlier steps a number of time as the project progresses. Its actually a series of short waterfall cycles, each producing an early prototype representing a part of the entire project. It is a circular view of the software lifecycle as opposed to the linear view of the waterfall approach. It can incorporate other models in its various developmental phases.

## Main Difference between Spiral and Incremental Model:

The incremental/iterative model is a way to describe a SDLC as a sequence of consecutive steps.

A Spiral model is a way to implement a iterative model, where each iteration follows a waterfall-like model. With each iteration, the product is updated, more features are added etc.

Properties of model	Incremental Model	Spiral Model
1)planning in early stage	Yes	Yes
2)Returning to an earlier phase	Yes	Yes
3)Handle Large Project	Not Appropriate	Appropriate
4)Detailed Documentation	Not much	Yes
5)cost	Low	Expensive
6)Requirement Specifications	Beginning	Beginning
7)User Involvement	Intermediate	High
8)Risk Involvement	Low	Medium-High
9)Testing	After every iteration	At the end of the engineering phase
10)Overlapping Phases	Yes	No
11)Objectives	Rapid development	High Assurance