

## 1. Function Oriented Design :

Function oriented design is the result of focusing attention to the function of the program. This is based on the stepwise refinement. Stepwise refinement is based on the iterative procedural decomposition. Stepwise refinement is a top-down strategy where a program is refined as a hierarchy of increasing levels of details.

We start with a high level description of what the program does. Then, in each step, we take one part of our high level description and refine it. Refinement is actually a process of elaboration. The process should proceed from a highly conceptual model to lower level details. The refinement of each module is done until we reach the statement level of our programming language.

## 2. Object Oriented Design :

Object oriented design is the result of focusing attention not on the function performed by the program, but instead on the data that are to be manipulated by the program. Thus, it is orthogonal to function -oriented design. Object-oriented design begins with an examination of the real world “things”. These things are characteristics individually in terms of their attributes and behavior.

Objects are independent entities that may readily be changed because all state and representation information is held within the object itself. Object may be distributed and may execute sequentially or in parallel. Object oriented technology contains following three keywords

### 1-Objects –

Software package are designed and developed to correspond with real world entities that contain all the data and services to function as their associated entities messages.

### 2-Communication –

Communication mechanisms are established that provide the means by which object work together.

### 3-Methods –

Methods are services that objects perform to satisfy the functional requirements of the problem domain. Objects request services of the other objects through messages.

Functional Programming	Object Oriented Programming
This programming paradigm emphasizes on the use of functions	This programming paradigm is based on object oriented concept.

<b>Functional Programming</b>  where each function performs a specific task.	<b>Object Oriented Programming</b>  Classes are used where instance of objects are created
<p>Fundamental elements used are variables and functions. The data in the functions are immutable (cannot be changed after creation).</p> <p>Importance is not given to data but to functions.</p> <p>It follows declarative programming model.</p> <p>It uses recursion for iteration.</p>	<p>Fundamental elements used are objects and methods and the data used here are mutable data.</p> <p>Importance is given to data rather than procedures.</p> <p>It follows imperative programming model.</p> <p>It uses loops for iteration.</p>
<p>It is parallel programming supported.</p>	<p>It does not support parallel programming.</p>
<p>The statements in this programming paradigm do not need to follow a particular order while execution.</p>	<p>The statements in this programming paradigm need to follow an order i.e., bottom up approach while execution.</p>
<p>Does not have any access specifier.</p>	<p>Has three access specifiers namely, Public, Private and Protected.</p>

Functional Programming	Object Oriented Programming
To add new data and functions is not so easy.	Provides an easy way to add new data and functions.
No data hiding is possible. Hence, Security is not possible.	Provides data hiding. Hence, secured programs are possible.