

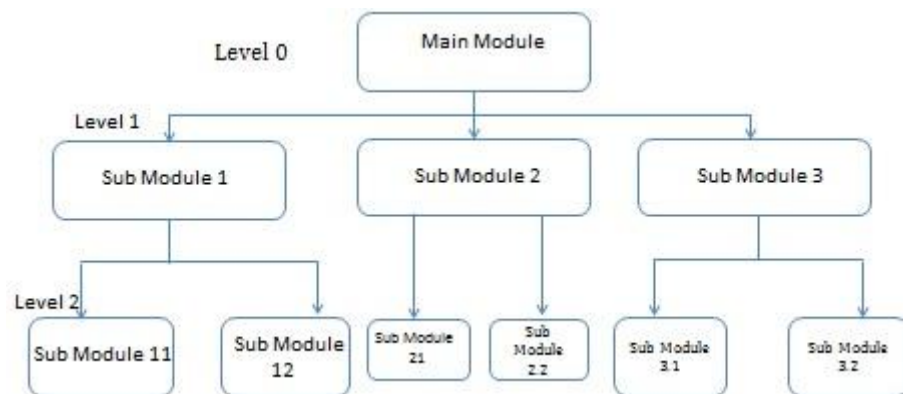
Software Design Approaches

Here are two generic approaches for software designing:

Top Down Design

We know that a system is composed of more than one sub-systems and it contains a number of components. Further, these sub-systems and components may have their own set of sub-system and components and creates hierarchical structure in the system.

- Top-down design takes the whole software system as one entity and then decomposes it to achieve more than one sub-system or component based on some characteristics. Each sub-system or component is then treated as a system and decomposed further. This process keeps on running until the lowest level of system in the top-down hierarchy is achieved.
- Top-down design starts with a generalized model of system and keeps on defining the more specific part of it. When all components are composed the whole system comes into existence.
- Top-down design is more suitable when the software solution needs to be designed from scratch and specific details are unknown.



Bottom-up Design

Bottom-Up Strategy follows the modular approach to develop the design of the system. It is called so because it starts from the bottom or the most basic level modules and moves towards the highest level modules.

In this technique,

- The modules at the most basic or the lowest level are identified.
- These modules are then grouped together based on the function performed by each module to form the next higher-level modules.

- Then, these modules are further combined to form the next higher-level modules.
- This process of grouping several simpler modules to form higher level modules continues until the main module of system development process is achieved.

