**1A.Describe about Design pattern?**

**Ans:**The pattern name is a handle we can use to describe a design problem, its solutions, and consequences in a word or two. Naming a pattern immediately increases our design vocabulary. It lets us design at a higher level of abstraction. Having a vocabulary for patterns lets us talk about them with our colleagues, in our documentation, and even to ourselves. It makes it easier to think about designs and to communicate them and their trade-offs to others. Finding good names has been one of the hardest parts of developing our catalog.

**1B.what do you mean by consequence?**

**Ans:**The consequences are the results and trade-offs of applying the pattern. Though consequences are often unvoiced when we describe design decisions, they are critical for evaluating design alternatives and for understanding the costs and benefits of applying the pattern.

The consequences for software often concern space and time trade-offs. They

may address language and implementation issues as well. Since reuse is often a

factor in object-oriented design, the consequences of a pattern include its impacton a system's flexibility, extensibility, or portability. Listing these consequencesexplicitly helps you understand and evaluate them.

**1C.How a design pattern solves design problem?**

**Ans:**

• **Consider how design patterns solve design problems**. Section 1.6 discusses how design patterns help you find appropriate objects, determine object granularity, specify object interfaces, and several other ways in which design patterns solve design problems. Referring to these discussions can help guide your search for the right pattern.

• **Scan Intent sections.** Section 1.4 (page 8) lists the Intent sections from all the patterns in the catalog. Read through each pattern's intent to find one or more that sound relevant to your problem. You can use the classification scheme presented in Table 1.1 (page 10) to narrow your search.

• **Study how patterns interrelate**. Figure 1.1 (page 12) shows relationships between design patterns graphically. Studying these relationships can help direct you to the right pattern or group of patterns.

• **Study patterns of like purpose**. The catalog (page 79) has three chapters, one for creational patterns, another for structural patterns, and a third for behavioral

patterns. Each chapter starts off with introductory comments on the patterns and

concludes with a section that compares and contrasts them. These sections give

you insight into the similarities and differences between patterns of like purpose.

• **Examine a cause of redesign**. Look at the causes of redesign starting on page 24 to see if your problem involves one or more of them. Then look at the patterns that help you avoid the causes of redesign.

• **Consider what should be variable in your design**. This approach is the opposite of focusing on the causes of redesign. Instead of considering what might force a change to a design, consider what you want to be able to change without redesign. The focus here is on encapsulating the concept that varies, a theme of many design patterns. Table 1.2 lists the design aspect(s) that design patterns let you vary independently, thereby letting you change them without redesign.