

Assignment 12

* Title: Template design pattern & exception handling in Java.

* Problem Statement

Write a program of templates & exception handling. In this assignment multiple templates are to be designed & these are used to take decision.

* Objectives:

- 1) To understand & use concept of template design pattern.
- 2) To understand concept & importance of exception handling in java
- 3) To learn to use multiple templates as pattern to take decisions.

* Outcome

To be able to implement multiple templates & exception handling in java.

* Software & Hardware Requirements:

- 1) Fedora OS 20, 64 bit
- 2) Editor gedit
- 3) Java

* Theory:

Templates:

Generics or templates in Java is similar to templates in C++. In software engineering the template method pattern is a behavior design pattern that defines the program selection of an algorithm in an operation differing some steps to subclasses. It lets one redefine certain steps of an algorithm without changing the algorithms structure.

Exception handling:

Exception handling is the process of responding to the occurrence during computation of instructions - anomalies or exceptional conditions requiring special processing. Keywords used in Java for handling exceptions are - try, catch, throw, throws & finally.

* Algorithm:

```
public class Exception Demo {  
    public static void main(String[] args) {  
        int a = 6, z = 0  
        int result;  
        try {  
            result = a/z  
            system.out.println("Just after  
                                attempt");  
        }  
        catch (Arithmetic Exception e) {  
            system.out.println("division  
                                by zero")  
        }  
        System.out.println("After catch")  
    }  
}
```

* Output:

Division by zero
After catch.

* Conclusion:

We studied & implemented multiple templates in java & implemented exception handling.