

Assignment-12 tom stalamal Title: Template design pattern and exception handling in JAVA. Problem: Write a program on template and exception handling in Java. In this assignment multiple templates are to be designed as a pattern and there patterns to be used to take decisions. Objective: 1) To understand the use of template design pattern. 2) To understand concept and importance of exception hardling in jova. 2) To learn to use multiple templates as pattern to take decisions. Outcome: 1) To be able to simplement multiple 2) To be able to implement exception handling in java. Theory: Template Method Design Pattern: Design Patterns are the best practices used by experienced object oriented software developers. These design patterns are solutions to general problems that software developers faced during software development. There are total 23 design patterns.



Template method pattern is a behavioral design pattern which provides base method for algorithm called template method which defens some of its steps to subdasses. So algorithm structure is same but some of its steps can be redefined by subclasses according to content.

Template means present format like

Template means present format like MTMI templates which has fixed preset format. Similarly in template method pattern, a preset structure method called template method which consists of steps. These steps can be alstract method which will be implemented by its subclasses. Thus template method defines algorithm but enact steps can be defined in subclasses.

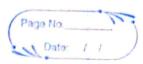
Components:

Abstract class: It defines template method defining the structure of algorithm and it also defines abstract operations that will be implemented by subclasses to define steps of algorithm.

Concrete class: It implements abstract operation of super class to carry out subclass specific steps of the algorithm and also overrides operation if default behavior is not required



ped -	Exception Handling: An expect exception is an error condition
ţ,	An exper exception is an error condition
	that changes the normal flow of control in a program. Exception is an object which is
	a program. Exception is an object which is
1011	thrown at nuntime. The exception handling
	in java is one of the powerful mechanism
1	to handle the nuntine enrors so that pormal
enellan	The cone advantage is to mountain the
0	the cone actioning is a maintain the
	normal flow of the application.
	An area tion care occión la realistation +
	An exception can occur for many different
61	A user has entered invalid data
2	A file that needs to ve opened cannot be found
m 3>	A network connection has been lost in the
	niddle of communication or the JVM has
duels	run out of memory sendani no drive de
EN T	a blood was in such class should as
	There are mainly three types of exceptions:
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	except dusting Exceptions and Experience
NASI	as closely de exceptions en to Exception SQL franction
1 6 700 0	except huntime Exception and Error are known as checked exceptions eg: to Exception, SQL Exception etc. Checked exceptions are checked at compile-time
ii	Unchecked Exception: The classes that extend Runtime Exception are known as unchecked exceptions eq. Arithmetic Exception, Null Pointer Exception, Array Indea Out of Bounds Exception etc. Unchecked exceptions
Il pus	Exception are known as unchecked exceptions eq.
Y.,	Arithmetic Exception, Null Pointer Exception, Array Indea
	Out of Bounds Bieption etc. Unchecked exceptions



	Date: / /
1 - 1	are not checked at compile-time rather-they are checked at nuntime.
001,211	are checked at runtime.
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	Error Caragania Caragania
	c: + las unecoverable eg: Outof Memory Error
DIVIN	Error is irrecoverable eq: Outof Memory Error, Virtual Machine Error, Assertion Error etc.
12,101	<u> </u>
NA UR L	There 5 negword wied in Java exception handling
-1)	try (1) trally v) throws.
11	There 5 keyword used in Java exception handling try iiis finally v) throws.
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	Template method Design-pattern. Define abstract class with template method
1)	Define abstract class with template method
1 53	consists of abstract methods and common methods. Common implementation of individual steps are
2)	Common implementation of individual steps are
CAIN	are fined of the base class into the subject
કું)	arride or implement specific steps to sub class.
ч)	Template method in super class should not be overidden so make it final.
10114	overidden so make it final.
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	Syntax of exception handling:
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	carch (Exception e)
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1 611	11 statement to be displayed after catching the 11 exception.
n pos	1 exception
	break Sunday I was the street to
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