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	Chapter 14 - Errors & Exceptions
illian	No matter how smart we are, errors are our
	constant companions. With practice, we keep
	No matter how smart we are, errors are our constant companions. With practice, we keep getting better at finding & correcting them.
164 F87	There are three types of errors in Java.
17	Syntax errors of mituals at makes
27	Logical errors
37	There are three types of errors in Java. Syntax errors Logical errors Runtime errors Also called Exceptions!
	In John Thrends !! Here !!
	Syntax Errors
, n	When compiler finds something wrong with our program.
	Syntax Errors When compiler finds something wrong with our program, it throws a syntax restor.
their	int a = 9 - No semirolon, syntax error!
	a = a+3;
	d= 4; -> Variable not declared. Syntax error!
	d = 4; -> Variable not declared, Syntax error!
	Logical engors
	Alogical exect of a bus provide the
	Compiles and king by days when a program
	A logical error or a bug occurs when a brogram compiles and runs but does the wrong thing.
4	message delivered word
4	message delivered wrongly Wrong time of chats being displayed incorrect redirects!
-	incorrect redirected ausplayed
	· · · · · · · · · · · · · · · · · · ·
	Runtime Exrors
	lata man familia
	brack on sometimes encounter an error while the
	Java may sometimes encounter an error while the program is running. These are also called exceptions!
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	Truse are encountered due to circumstances like
	bad input and low resource constraints.
	Ex: user supplies '5' + 8 to a program which
	salds 2 numbers.
	the state of the s
	Byntax errors and logical errors are encountered by the programmer where as Runtime errors are encountered by the users.
	by the programmer where as Runtime errors
10	are encountered by the users.
	sociated significant to the state of the second significant to the sec
	Exceptions in Java
	An Exception is an event that occurs when a program
	is executed disrupting the normal flow of instructions.
	There are mainly two types of exceptions in Java:
17	Checked Exception -> Compile time exceptions (Handled by Compiler)
27	An Exception is an event that occurs when a program is executed disrupting the normal flow of instructions. There are mainly two types of exceptions in Java: Checked Exception -> Compile time exceptions (Handled by Compiler). Unchecked Exception -> Runtime exceptions
	Commonly Occurring Exceptions
	Following are few commonly occurring exceptions in Java:
17	Null Pointer Exception
27	Ari thmetic Exception
3,	Array Index Out of Bound Exception
4)	Ikgal Argument Exception
51	Number format Exception
	3(0-2)140
	try-catch black in Java
	In Java, exceptions are managed using try-catch blocks
-N.S.	Syntax:
	try ?
	11 Lode to try 3
3	
	catch (Exception e) {
	11 Code if exception

Handling specific Exceptions
In Java, we can handle specific exceptions by typing
multiple catch blocks. 11 Code Catch [IoException e] Catch (Arithmetic Exception e) & - Handles all Exceptions of
Wode Arithmetic Exception Catch (Exception e) { - Handles all other Exceptions Nesked try-catch
We can nest multiple try-catch blocks as follows: (atch (Ex. c) { Hested try- atch blocks Similarly, we can further nest try catch blocks inside the nested try catch blocks.

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	Quick Quiz: Write a lava program that allows you to
net.	Rest accessing an array until a
4,	Volid index is own hu the use
A	Quick Quiz: Write a Java program that allows you to keep accessing an array until a Valid index is given by the user.
3,0	The state of the s
	Tolo Con with our and [11]
7	Exception class in Java We can write our custom Exceptions using Exception class in Java:
\$ 0	Manage Market Leans Divid alabated thou sinding
	111: 1 11 5 6
	public class My Exception extends Exception { No verridden methods
	No verriddin methods
	Jona finally block - &
MAN P	Singly block contains the costs which is always
	The Exception class has following important methods:
13	ALL CLEARLE UNIVERSITY OF THE CASH AND THE PARTIES OF THE CASH AND THE
(1)	String to String () -> executed when sout (e) is van
(2)	Void brint Stack Trace() -> brints stack trace
(3)	String to String () -> executed when sout (e) is van Void print Stack Trace () -> prints Stack trace String get Message () -> prints the Exception message
	The throw Remisord
	The throw keyword is used to throw an exception explicitly by the programmer
	explicitly by the programmer
	vapacity by the programmer
	11/10) 5
	if (b==0) { throw new Arithmetic Exception ("Div by 0");
	Throw new Arithmetic Exception [Div by 0);
	3
	else {
	return a/b;
	3
	In a similar manner, we can throw user defined exceptions: throw new My Exception ("Exception thrown");
	exceptions:
	through near My Exception (" Exception thrown");
	The state of the s

The throws exception

The Java throws keyword is used to declare an taution.

This gives an information to the programmer that there might be an exception so its better to be parepared with a try which block! public Void Calculate (int a, int b) throws 10 Exception { Java finally block finally block contains the code which is always execute whether the exception is handled or not.

It is used to execute code containing instructions to release the system resources, close a connection etc.