Exception Handling

Assignment Solutions

1. Explain different types of Errors in Java.

- Syntax Error/Compile-Time Mistakes: These errors relate to mistakes made by the programmer in terms of syntax. They're caught by the compiler during compilation.

- Logical Error/Run-Time Mistakes: These occur when there's an issue in the program's logic. They're identified by the JVM during program execution.

2. What is an Exception in Java?

- An unexpected event that disrupts a program's normal execution is called an "Exception." Exception handling aims to manage these occurrences and allow for graceful program termination.

3. How can you handle exceptions in Java? Explain with an example.

- Exception handling involves using "try" to monitor code that might cause exceptions, "catch" to catch those exceptions, and "finally" to execute code regardless of whether exceptions were caught or not. An example code snippet demonstrates this.

class Launch {

public static void main(String args[]) {

try {

System.out.print("Hello" + " " + 1 / 0);

}

catch(ArithmeticException e) {

System.out.print("£orld");

} }

}

4. Why do we need exception handling in Java?

- Without exception handling, if an exception occurs without a try-catch block, the program will terminate. Exception handling allows a program to continue running smoothly despite encountering exceptions.

5. What is the difference between exception and error in Java?

- Errors typically occur while an application is running, like Out of Memory Errors caused by the JVM running out of memory. Exceptions are usually caused by the application, such as Null Pointer Exceptions when attempting operations on null objects.

6. Name the different types of exceptions in Java.

- Checked exceptions occur during compilation, and the compiler checks whether they are handled.

- Unchecked exceptions occur during program execution and aren't detectable during compilation.

7. Can we just use try instead of finally and catch blocks? Give an example.

- No, using only the try block without catch or finally blocks will result in a compilation error. Either catch or finally must accompany the try block. While you can remove either finally or catch block, removing both is not permissible.