Exception Handling

1.explain different types of errors in Java

In conclusion, the three main types of errors in Java are syntax errors, runtime errors, and logical errors. Syntax errors occur when there is a mistake in the code structure, runtime errors occur during the execution of the program, and logical errors occur when the program does not produce the expected result.

2.what is an exception in Java?

An exception is an event, which occurs during the execution of a program, that disrupts the normal flow of the program's instructions. When an error occurs within a method, the method creates an object and hands it off to the runtime system

3.how can you handle exceptions in Java? explain with an example.

We are trying to divide a number by 0 . Here, this code generates an exception. To handle the exception, we have put the code, 5 / 0 inside the try block. Now when an exception occurs, the rest of the code inside the try block is skipped.

```
class Launch
{
public static void main(String args[])
{
try
{
System.out.print("Hello" + " " + 1 / 0);
}
catch(ArithmeticException e)
{
System.out.print("World");
}
}
}
```

4.why do we need exception handling in Java

Java exception handling is important because it helps maintain the normal, desired flow of the program even when unexpected events occur. If Java exceptions are not handled, programs may crash or requests may fail.

5.what is the difference between exception and error in Java

Errors occur at compile time and run time, which can terminate the compilation or execution. Exceptions occur only at run time, just that checked exceptions can be detected at compile time. Errors are also unchecked like Runtime Exceptions. Exceptions provide you the opportunity to make your program run in normal flow.

6.Name the different types of exception in Java

Based on handling by JVM, there are typically two types of exceptions in Java:
Checked: Occur during the compilation. Here, the compiler checks whether the exception is handled and
throws an error accordingly.
Unchecked: Occur during program execution. These are not detectable during the compilation process.

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

No, doing so will show a compilation error. Catch or finally block must always accompany try block. We
can remove either finally block or catch block, but never both.