1. What are the four access modifiers available in Java and what is their significance in terms of class, method, and variable accessibility?

Access modifiers in Java control the visibility of classes, methods, and variables. There are four access modifiers:

* Public: The class, method, or variable is accessible by any other class.
* Protected: The class, method, or variable is accessible within its package and by subclasses.
* Default (no modifier): The class, method, or variable is accessible only within its package.
* Private: The class, method, or variable is accessible only within the declared class.

2. What is the difference between Exception and error?

**Exception vs Error:**

Exception: Exceptions are events that occur during the execution of a program that disrupt the normal flow of instructions.

They can be caught and handled using try-catch blocks.

**Error:** Errors are typically unrecoverable events that happen at runtime, outside the control of the application.

Examples include OutOfMemoryError or StackOverflowError. Usually, errors should not be caught or handled.

3. What is the difference between checked Exception and unchecked Exception?

**Checked Exception vs Unchecked Exception:**

**Checked Exception:** These are checked at compile time. The compiler forces you to either handle them using try-catch or declare that your method throws them

using the throws clause. Examples include IOException.

**Unchecked Exception:** These are not checked at compile time. They usually extend RuntimeException. Examples include NullPointerException and ArrayIndexOutOfBoundsException.