

## Task 11

### 1. Java Offers Four Primary Access Modifier

- Default
- Private
- Protected
- Public

**Default :**

It allows Access with in the same package.

**Private :**

It Can Access only within the same class and not from outside the class.

**Protected :**

It can be accessed within the same package and also from outside the package with the help of the child class.

**Public :**

It can be accessed from within the class as well as from outside the class and also within the package and outside the Package.

### 2. Difference Between Errors and Exceptions

**Errors :**

The error indicates trouble that primarily occurs due to the scarcity of system resources.

It is not possible to recover from an error.

In java, all the errors are unchecked.

The system in which the program is running is responsible for errors.

They are described in the java.lang.Error package.

**Exceptions :**

The exceptions are the issues that can appear at runtime and compile time.

It is possible to recover from an exception.

In java, the exceptions can be both checked and unchecked.

The code of the program is accountable for exceptions.

They are described in java.lang.Exception package

### 3. Differences Between Checked and Unchecked Exceptions

#### **Checked Exceptions :**

Checked exceptions happen at compile time when the source code is transformed into an executable code.

The checked exception is checked by the compiler.

Checked exceptions can be created manually.

This exception is counted as a sub-class of the class.

Java Virtual Machine requires the exception to be caught or handled.

#### **Unchecked Exceptions :**

Unchecked exceptions happen at runtime when the executable program starts running.

These types of exceptions are not checked by the compiler.

They can also be created manually.

This exception happens in runtime, and hence it is not included in the exception class.

Java Virtual Machine does not need the exception to be caught or handled.