**Assignment3**

**8. Difference between Public , Private, Protected and Default?**

**Access Modifiers:**

Access level modifiers determine whether other classes can use a particular field or invoke a particular method.

There are 4 types of java access modifiers:

**Public:** A class is declared with the modifier public, in which case that class is visible to all classes everywhere.

**Private:** Private access modifier is accessible only with in the class.

**Protected:** The protected access modifier is accessible within package and outside the package but through inheritance only.

**Default:** If a class has no modifier (the default, also known as *package-private*), it is visible only within its own package.

The following table shows the access to members permitted by each modifier.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Access Levels** | | | | |
| **Modifier** | **Class** | **Package** | **Subclass** | **World** |
| public | Y | Y | Y | Y |
| protected | Y | Y | Y | N |
| *no modifier* | Y | Y | N | N |
| private | Y | N | N | N |

**9. What is Inheritance ? What is Extends?**

**Inheritanc:**

**Inheritance in java** is a mechanism in which one object acquires all the properties and behaviors of parent object.

The idea behind inheritance in java is that you can create new classes that are built upon existing classes. When you inherit from an existing class, you can reuse methods and fields of parent class, and you can add new methods and fields also. It is mainly used for method overriding and code reusability.

**Syntax:**

Class subclass extends superclass

{

//Methods and fields

}

**Extends:**

The extends keyword indicates that you are making a new class that derives from an existing class.

**10. What is Super? How to use it in the class?**

If your method overrides one of its superclass's methods, you can invoke the overridden method through the use of the keyword super.

Usage of Super class keyword:

1. super is used to refer immediate parent class instance variable

2. super() is used to invoke immediate parent class constructor.

3. super is used to invoke immediate parent class method.

**11.What are Exceptions? Write down types of exceptions? Why we use Finally class?**

An exception is an event, which occurs during the execution of a program, that disrupts the normal flow of the program's instructions.

There are 3 types of exceptions

1. Checked Exceptions

2. Unchecked Exceptions

3. Error

**Finally Block:**

Java finally block is a block that is used to execute important code such as closing connection, stream etc. this ensures that the finally block is executed even if an unexpected exception occurs. It must be followed by try or catch block. it allows the programmer to avoid having cleanup code accidentally bypassed by a return, continue, or break. Putting cleanup code in a finally block is always a good practice, even when no exceptions are anticipated.