

Java Source file Structure:

A java source file can contain any number of classes but at most one class can be declared as public. If there is a public class the name of the source file name (.java file) and name of the public class must be same matched, otherwise we will get compile time error .

If no public class then any name we can give java source file.

With Top level class only two {default /no-modifier and public } access modifier is applicable.

case 1:

```
class A // access modifier with this class is default or no-modifier
{
}
```

This source file can be saved with any name. for example x.java

If we compile this file :

Javac x.java

After compilation we will get A.class file (Byte code)

case 2:

```
public class B // access modifier with this class is public
{
}
```

This source file cannot be saved with any name, must be saved as public class name B (so source file name must be B.java)

If we compile this file :

Javac B.java

After compilation we will get B.class file (Byte code)

case 3: a java source file may contain more than one java classes.

```
class X // // access modifier with this class is default or no-modifier
{
}
class Y // // access modifier with this class is default or no-modifier
{
}
class Z // // access modifier with this class is default or no-modifier
{
}
```

This file can be saved with any name for example abc.java.

After compilation we will get X.class, Y.class and Z.class files

case 4: a java source file may contain more than one java classes and one of them is public.

```
class X // // access modifier with this class is default or no-modifier
{
}
public class Y // // access modifier with this class is public
{
}
class Z // // access modifier with this class is default or no-modifier
{
}
```

This file cannot be saved with any name. This source file contains a class Y as public , so must be saved with Y.java name

After compilation we will get X.class, Y.class and Z.class files

case 5: a java source file may contain more than one java classes and more than (suppose two) of them is public.

```
class X // // access modifier with this class is default or no-modifier
{
}
public class Y // // access modifier with this class is public
{
}
public class Z // // access modifier with this class is public
{
}
```

This source file contains a class Y as public , so let it be saved with Y.java name. If we compile this file, we will get a compilation error " class Z is public, should be declared in a file named Z.java".

In other words we can say that, more than one public class are not allowed in a java source file.

Java source file structure

package statement → at most one
import statement → any number is allowed
class/interface/enum declaration



Order is
important