ICS4U

Access Modifiers in Java

The access modifiers in java specifies accessibility (scope) of a data member, method, constructor or class.

There are 4 types of java access modifiers:

1. private – accessible only within class
2. default – accessible only within package
3. protected – accessible within package and outside the package but through inheritance only.
4. public – accessible everywhere

Using "Private" Modifier With Variables In A Class

It is recommended that variables in a class be private in order to have some control over how data is written to those variables. This is a method of **encapsulation**. **Encapsulation** is a mechanism of containing data into one parcel and keeping the variables private helps to maintain data integrity.

Example: a variable that keeps track of number of hours worked in a week should always be a positive number.

public class Employee {
private String name, employeeId;
private double salary;
 	
public Employee (String s1, String id, double s) {
name = s1; employeeId = id; salary = s;
}
 	
public setSalary (double a) {
if (a>0) salary = a;
}
}
	It is desired that the employeeId be permanent.
	
	Since there is no way for the string "employeeId" to be modified, this employee ID will remain unchanged.
	
	The private variable salary can still be modified but only if the new salary is greater than zero.