Access Modifiers and Information Hiding

Lesson 2.1

Learning Outcomes

LO 2.1.1 **Use** necessary public access modifier on attributes and methods

LO 2.1.2 **Use** private access modifier to facilitate information hiding

Access Modifiers

Access modifiers specifies the accessibility/scope of an attribute, method, class, or any programming structure.

There are 4 types of Java access modifiers but we will be only tackling two (2) of them: **public** and **private** modifier access.

	private	public
Same class	Yes	Yes
Not same class	No	Yes

Access Modifiers

```
public class Hat
{
    private String size;
    public int radius;
}
```

The *size* attribute **cannot be accessed** outside class Hat, while the *radius* attribute **can be accessed** outside class Hat using the dot notation.

Information Hiding

Information hiding is a design principle that strives to shield client classes from the internal workings of a class.

In *Java*, this is simply setting the modifier access to **private**.

LO 2.1.1 Use necessary public access modifier on attributes and methods

LO 2.1.2 Use private access modifier to facilitate information hiding

Which of the following attributes of class Quiz must have a public modifier access? A private modifier access? Why?

```
class Quiz
{
    Student owner;
    char[] answers;
    char[] correct_answers;
    int score;
}
```

LO 2.1.1 Use necessary public access modifier on attributes and methods

LO 2.1.2 Use private access modifier to facilitate information hiding

Which of the following attributes/methods of class Lock must have a public modifier access? A private modifier access? Why?

```
class Lock
{
    String[] correct_usernames;
    String[] correct_passwords;
    String username;
    String password;
    bool isLock;
    String info;

    void unlock();
    void setInfo(String info);
    String getInfo();
}
```