

Java 'final' Keyword Notes

Step-by-Step Notes on the 'final' Keyword in Java:

1. Final Local Variables:

- A final local variable is declared inside a method or block.
- Once assigned, its value cannot be modified.
- Must be initialized only once.

Example:

```
```java
public void display() {
 final int number = 100;
 System.out.println("Number: " + number);
}
```
```

2. Final Data Members:

- Declared at the class level.
- Must be initialized during declaration or in a constructor (instance variable) or a static block (static variable).

Example:

```
```java
public class FinalStaticVariable {
 static final String COMPANY_NAME;
 static {
 COMPANY_NAME = "TechCorp";
 }
}
```

```
}
...

```

### 3. Final Methods:

- Cannot be overridden by subclasses.
- Can still be inherited.

Example:

```
```java  
  
class Parent {  
  
    final void showMessage() {  
  
        System.out.println("This is a final method.");  
  
    }  
  
}  
...  

```

4. Final Classes:

- Cannot be subclassed.
- All methods in a final class are implicitly final.

Example:

```
```java  

final class FinalClass {

 void display() {

 System.out.println("This is a final class.");

 }

}
...

```

Summary Table:

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Use Case	Behavior	
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Final Local Var	Value cannot change.	
Final Data Member	Must be initialized.	
Final Method	Cannot be overridden.	
Final Class	Cannot be extended.	
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