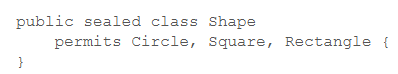
New features in JDK 17

13.1 Sealed class

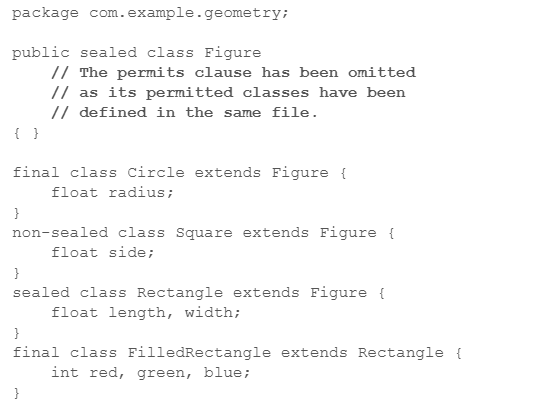
-Sealed classes and interfaces: restrict which other classes or interfaces may extend or implement them.

-Declare:



+The permitted subclasses are in the same module or in the same package.

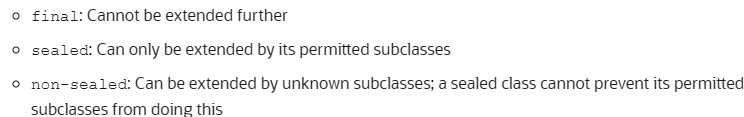
+You can define permitted subclasses in the same file, then you can omit permits:



-Permitted subclasses:

+Must extend the sealed class.

+Must be one of:



+Must be in the same module or same package.

-Sealed interface: specifies classes and interfaces that can extend and implement

-Record classes as permitted subclasses: record is final

-**java.lang.Class methods**:

permittedSubClasses()

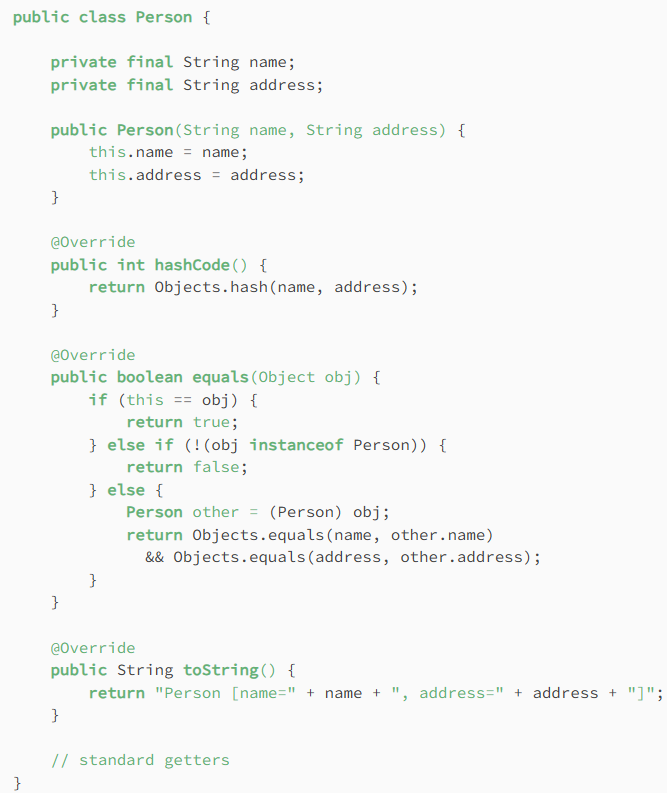
isSealed()

13.2 Record

<https://www.baeldung.com/java-record-keyword>

13.2.1 Purpose

-We write classes to hold data (database result, query result, information from a service), this data is immutable.



+There’s lots of boilerplate code.

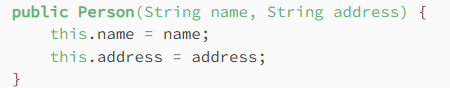
+Obscure the purpose of the class

13.2.2 The basics

-JDK 14: Records are immutable data classes that requires only the type and name of fields. equals(), hashCode(), toString(), private, final fields and constructor are generated by Java compiler.



-The equivalent constructor:



+Instantiate objects from record:

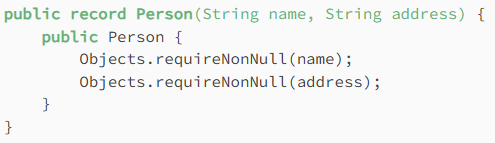


-The equivalent getters, equals (true if objects of same type and values match), hashCode (return same value for 2 objects if all field values match), toString(name of record+field names+field values)

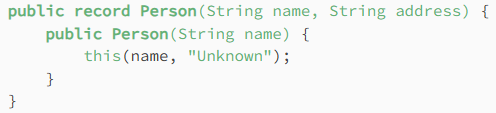
13.2.3 Constructors

-We can customize constructor for **validation**:

+Example: fields aren’t null

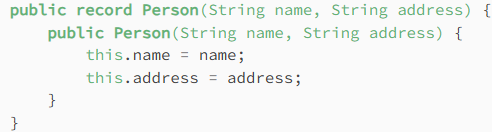


-Create new constructors with different arguments by supplying a different argument list:

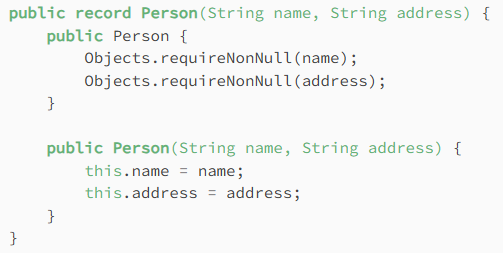


+Fields can be referenced using **this**.

+Creating a constructor with same arguments as the generated public constructor is valid, but each field is manually initialized.



+Error when declare constructor matching the generated one:



13.2.4 Static variables and methods

-We can use static variables and methods in record

