Sealed classes in Java 15

```java
public sealed class Shape
    permits Circle, Square, Rectangle{
}
```

Sealed classes in Java 16

https://openjdk.java.net/jeps/397

- Java assumes that code reuse is always a goal
- Sometimes the code author of a super-class needs to defend against unknown sub-classes.
- Example
  - StringBuffer
  - StringBuilder

package-private approach

```java
package java.lang;


abstract class AbstractStringBuilder  { … }

public final class StringBuffer

        extends AbstractStringBuilder { … }


public final class StringBuilder

        extends AbstractStringBuilder { … }
```

Sealed class or interface

```java
public sealed class Shape
    permits Circle, Square, Rectangle{
}
```
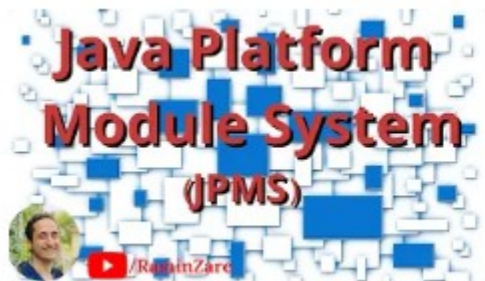
A sealed class or interface can be extended or implemented only by those classes and interfaces permitted to do so.

1) If the super-class is in a **named module**
   - The sub-classes must be in **same module**
2) If the super-class is in a **unnamed module**
   - The sub-classes must be in **same package**

Sealed classes : Rules

آشنایی با JPMS (Java Platform Module System)

در این ویدیو در مورد جاوا ماژول در جاوا صحبت میکنیم و
‫...Github Demo projec اینکه چطوری میشه باهاش کار کرد.

New keywords

- `sealed`

- `non-sealed`

- `permits`

Sealed classes : Rules

3) Every permitted subclass must directly extend the sealed class

4) Exactly one of the modifiers final, sealed, and non-sealed must be used by each permitted subclass

Another type of declaration

```java
public sealed class Shape {
}

final class Rectangle extends Shape{}

final class Square extends Shape {}

final class Circle extends Shape {}
```

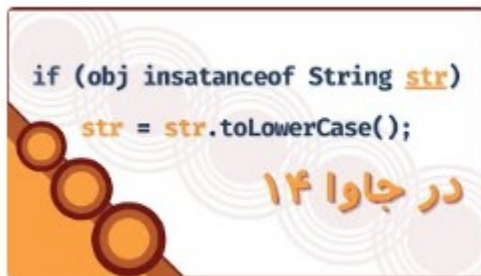Sealed classes work well with record classes

Watch this video :

Records IN JAVA 14

record Point(int x, int y){}

Records in Java 14 رکورد ها در جاوا 14 ویژگی پرکاربرد

معرفی preview در جاوا 14 ویژگی کاربردی جدیدی به شکل
...با که قراره در ورژن 16 نهایی بشه. با این Record شد به نام

Sealed classes and pattern matching

Future changes

```
Shape rotate(Shape shape, double angle) {
    return switch (shape) {
        case Circle c    → c;
        case Rectangle r → r.rotate(angle);
        case Square s    → s.rotate(angle);
        // no default needed!
    }
}
```

Sealed classes and pattern matching

Pattern Matching for instanceof در Java 14

یکی دیگه از ویژگی های جدید جاوا که در ورژن 14 معرفی
شده و در ورژن 16 منتشر شد ...Pattern Matching for