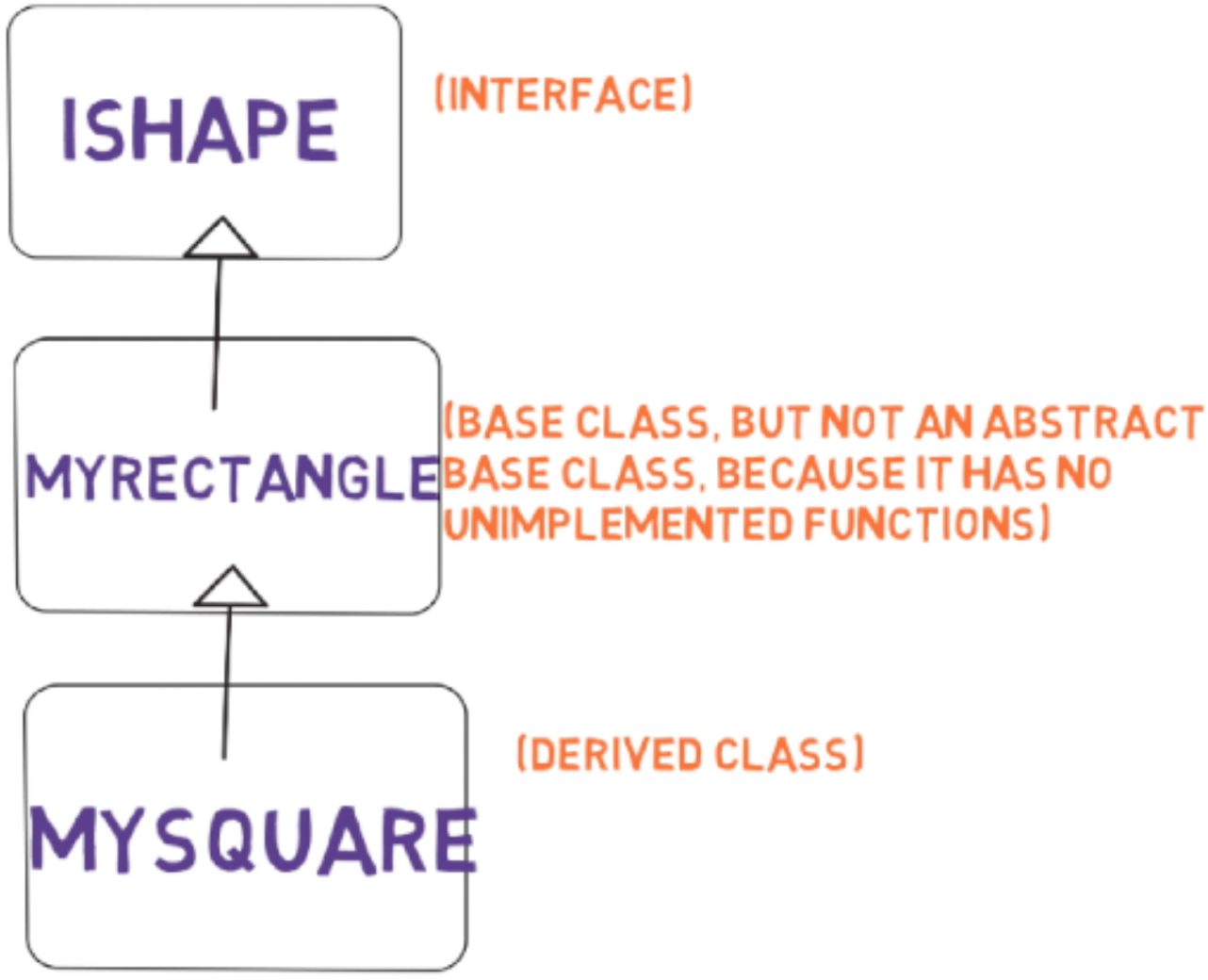
ANNOTATIONS

```java
public interface IShape {

    public String introduceYourself();
```




```java
public String introduceYourself() {
    return "I am a rectangle";
}
```

WHAT WE WANT TO DO

```java
public String introduceYourself() {
    return "I am a square";
}
```

BUT A TYPO HAPPENS..

THIS KIND OF ERROR IS VERY EASY TO OVERLOOK - NO COMPILE-TIME WARNING OR ERROR WOULD OCCUR..

..BUT AT RUNTIME, THE OUTPUT OF THIS CODE BELOW WOULD BE AN UNPLEASANT SURPRISE

JAVA ANNOTATIONS TO THE RESCUE!

JAVA ALLOWS THE PROGRAMMER TO MARK CODE WITH THE "@OVERRIDE" ANNOTATION

```
@Override
public String introduceYoursef() {
    return "I am a square";
}
```

THEN, THE SAME TYPO WOULD BE INTERCEPTED AT COMPILE-TIME, AND AN ERROR WOULD RESULT

Error:(9, 5) java: method does not override or implement a method from a supertype

THE "@OVERRIDE" ANNOTATION HELPED CONVERT A HARD-TO-TRACE RUNTIME ERROR INTO AN EASY-TO-FIX COMPILE TIME ERROR

ANNOTATIONS IN JAVA ARE NOTES ADDED TO THE CODE

THEY ARE CONCEPTUALLY SIMILAR TO COMMENTS,
BUT HAVE IMPORTANT ADVANTAGES OVER COMMENTS

AS THE @OVERRIDE EXAMPLE SHOWED,
THEY ARE ACTED UPON BY THE COMPILER,
WHILE COMMENTS ARE IGNORED ENTIRELY
BY THE COMPILER

ANNOTATIONS ARE PART OF THE METADATA
OF THE CLASSES, AND HENCE ARE AVAILABLE
FOR USE VIA **REFLECTION**

USERS CAN DEFINE SPECIFIC NEW TYPES
OF ANNOTATIONS AND USE THESE IN OTHER
PARTS OF CODE, SUCH ANNOTATIONS ARE
CALLED **CUSTOM ANNOTATIONS**

BUILT-IN ANNOTATIONS

IN ADDITION TO CUSTOM ANNOTATIONS, WHICH PROGRAMMERS CAN DEFINE AND USE, JAVA COMES WITH SOME ANNOTATIONS BUILT-IN

@OVERRIDE

CHECKS THAT THIS METHOD ACTUALLY OVERRIDES SOME INTERFACE OR BASE-CLASS METHOD

@SUPPRESSWARNINGS

THIS ANNOTATION TAKES IN A TYPE OF COMPILER WARNING EG "DEPRECATION" AND SUPPRESSES COMPILER WARNINGS

@DEPRECATED

THROWS A COMPILER WARNING IF A DEPRECATED METHOD IS USED.

@FUNCTIONALINTERFACE

CONFIRMS THAT THE INTERFACE IS INDEED A FUNCTIONAL INTERFACE (I.E. ONLY HAS A SINGLE METHOD)

THESE AND OTHER BUILT-IN ANNOTATIONS CAN PROVE VERY HELPFUL IN SPECIFIC SITUATIONS!