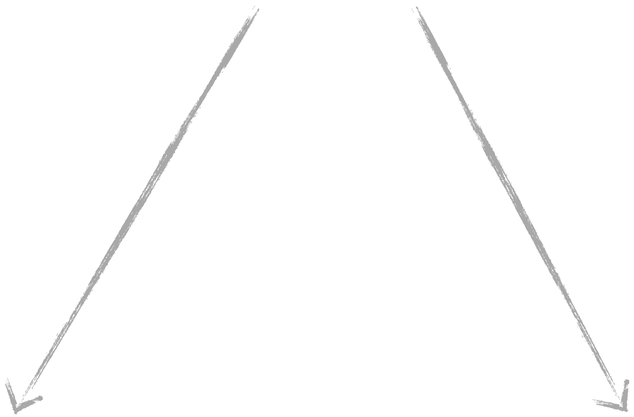
Variables

Variables



`val`

read-only

`var`

mutable

Read-only variable: `val`

```
val question: String =
        "life, the universe, " +
                "and everything"
println("$question?")
```

```
life, the universe, and everything?
```

Read-only variable: `val`

```
val question: String =
        "life, the universe, " +
                "and everything"
println("$question?")

question = "sure?"
```

```
    Compiler error:
val cannot be reassigned
```

corresponds to a `final` variable in Java

Mutable variable: `var`

```
var answer = 0
answer = 42
println(answer)        // 42
```

Local type inference

```
: String
val greeting = "Hi!"

: Int
var number = 0
```

`String` and `Int` types are inferred

Why doesn’t the following code compile?

```
var string = 1
string = "abc"
```

Because you can’t

1. re-assign `var`
2. assign an integer value to a variable of `String` type
3. assign a string literal to a variable of `Int` type

?

Why doesn't the following code compile?

```
var string = 1
string = "abc"
```

Because you can't

1. re-assign `var`
2. assign an integer value to a variable of `String` type
3. assign a string literal to a variable of `Int` type

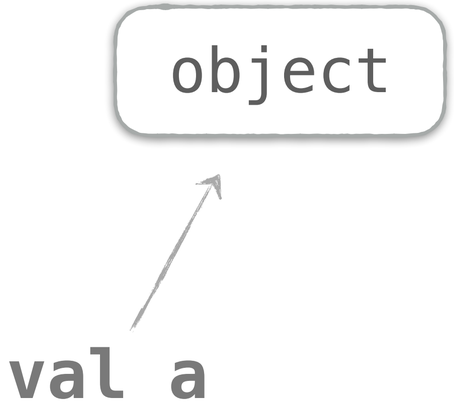
Local type inference

```
: Int
var string = 1
string = "abc"
```

```
Compiler error: Type mismatch:
    inferred type is String
     but Int was expected
```

Is it possible to modify an object stored in `val`?

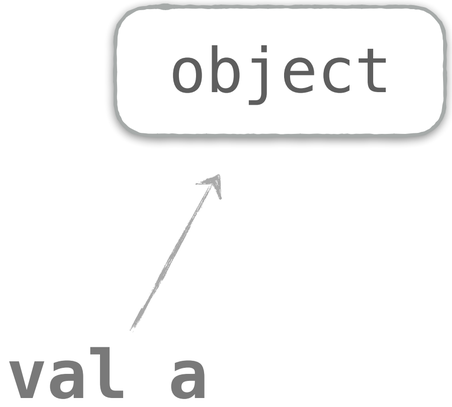
1. yes
2. no



?

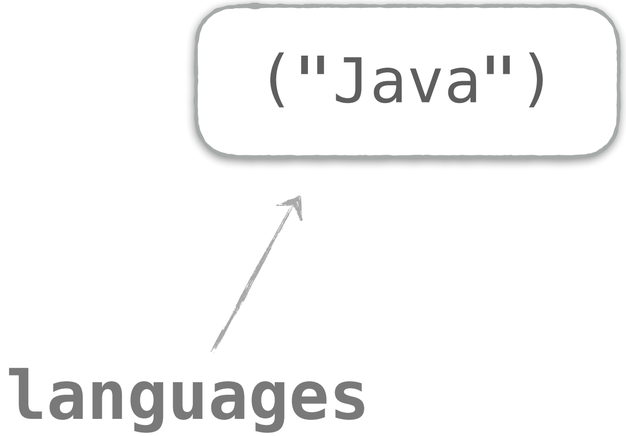
Is it possible to modify an object stored in `val`?

1. yes
2. no



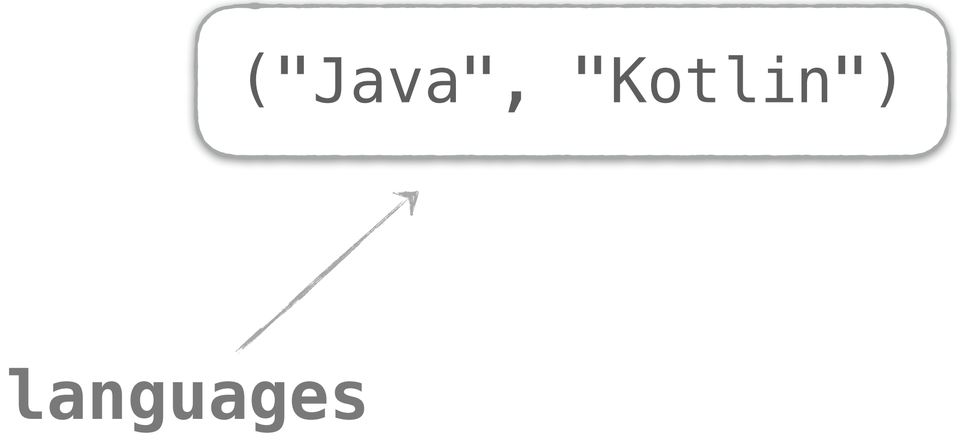
`val`: read-only reference, not object

```
val languages = mutableListOf("Java")
```



`val`: read-only reference, not object

```
val languages = mutableListOf("Java")
languages.add("Kotlin")
```



Why doesn’t the following code compile?

```
val list = listOf("Java")
list.add("Kotlin")
```

Because you can’t

1. modify a read-only list
2. modify an object stored in `val`

?

Why doesn't the following code compile?

```
val list = listOf("Java")
list.add("Kotlin")
```

Because you can't

1. modify a read-only list
2. modify an object stored in `val`

`Lists`: mutable & read-only

```
val mutableList = mutableListOf("Java")
mutableList.add("Kotlin")
```

```
val readOnlyList = listOf("Java")
readOnlyList.add("Kotlin")
```

Read-only list lacks mutating methods

Prefers `val`s to `var`s

Don’t omit types (specify them explicitly) if they might be not clear from the context