structs and classes

structs and classes

Way to design a reusable data model

Create the model once and generate copies of it

Define a set of characteristics and actions

Define a set of **variables** and **functions**

class

struct

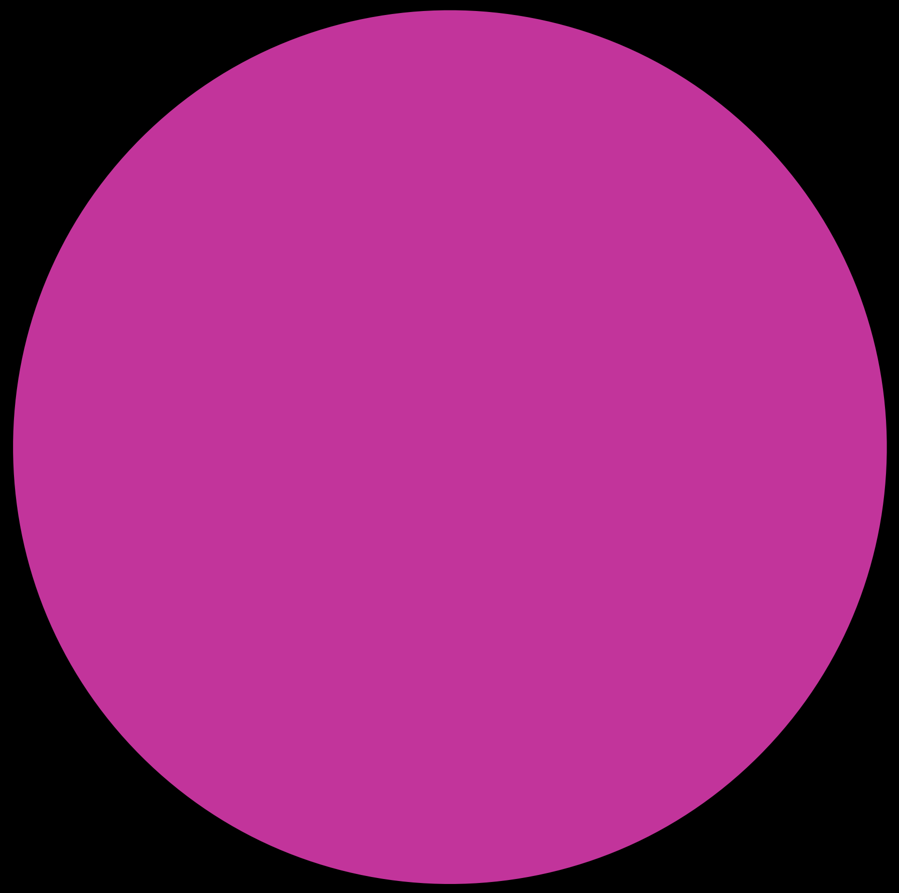
Model and instance

Model > define characteristics and actions

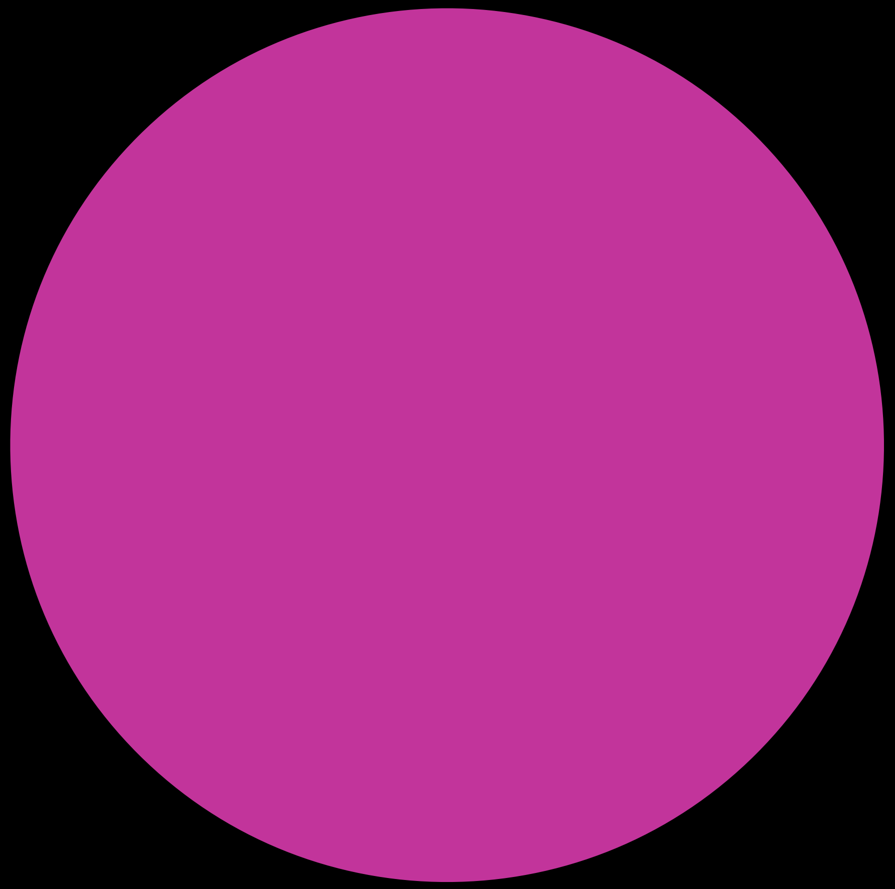
Instance > copy what was defined by the model

Any update on the Model affect its instances

Instances represent elements from the same "domain"



Model and instance



Model and instance

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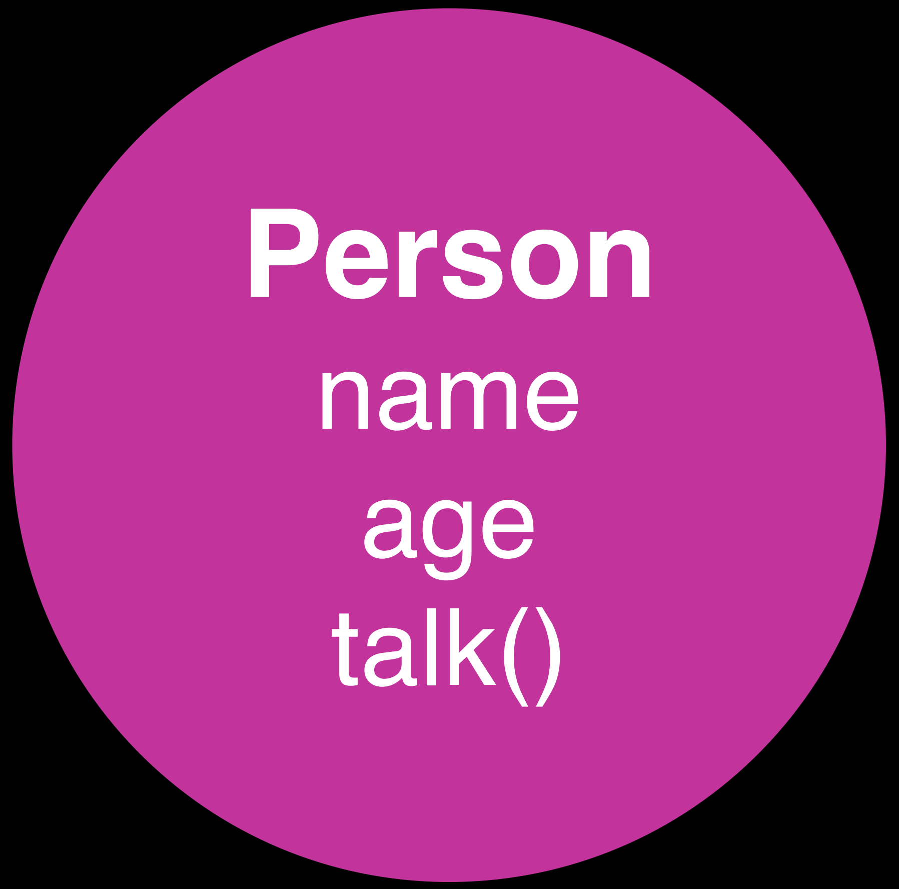
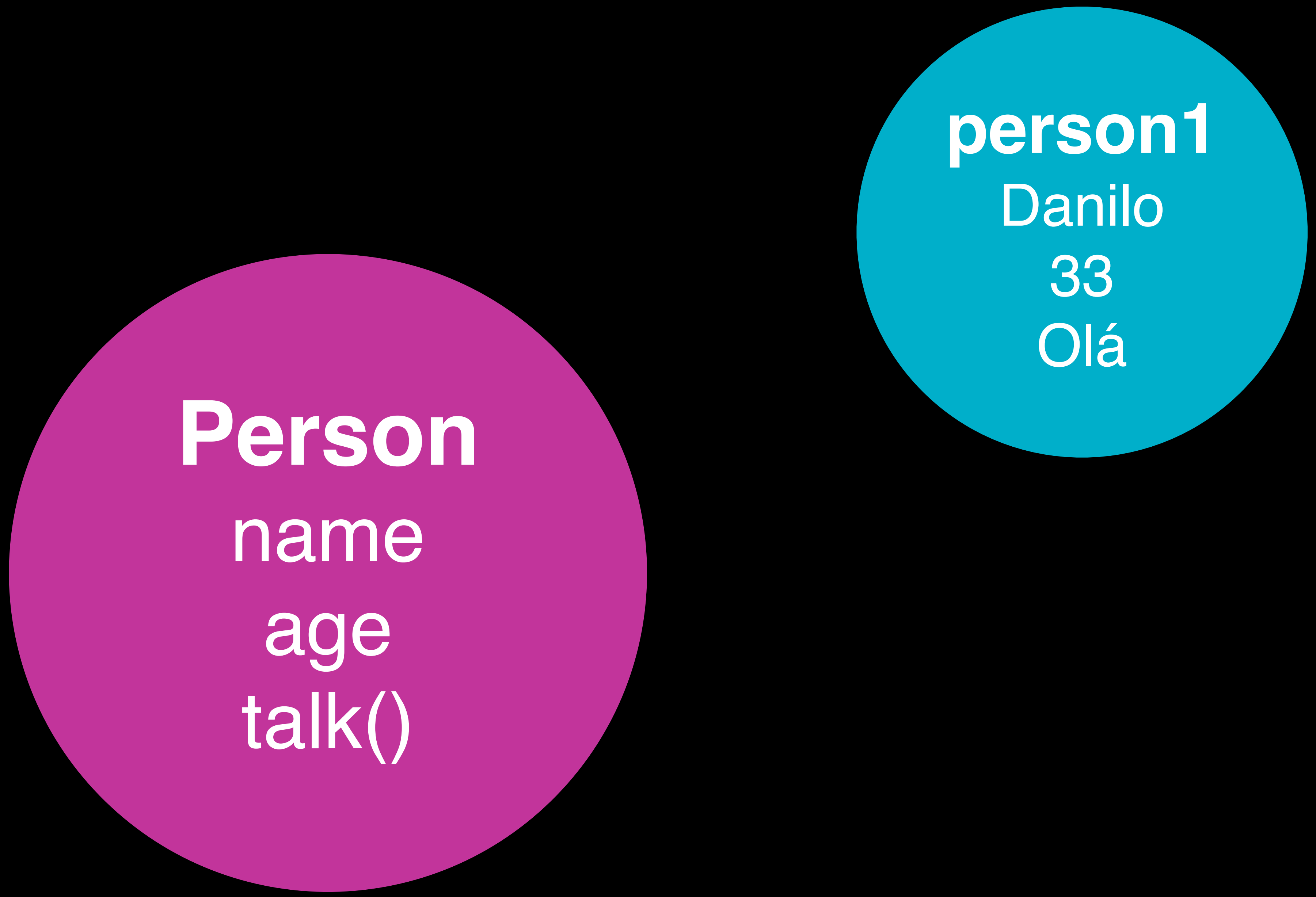
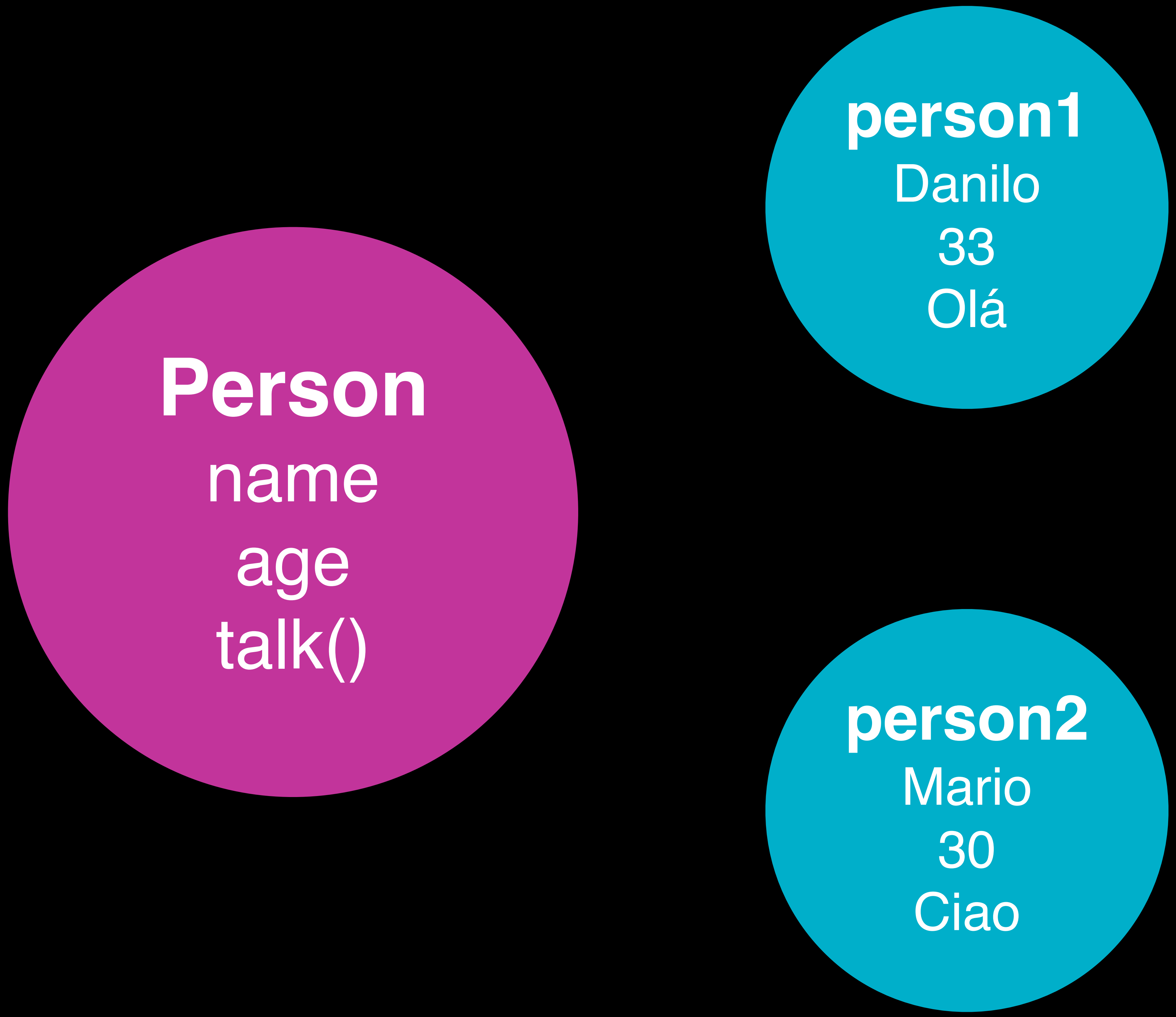


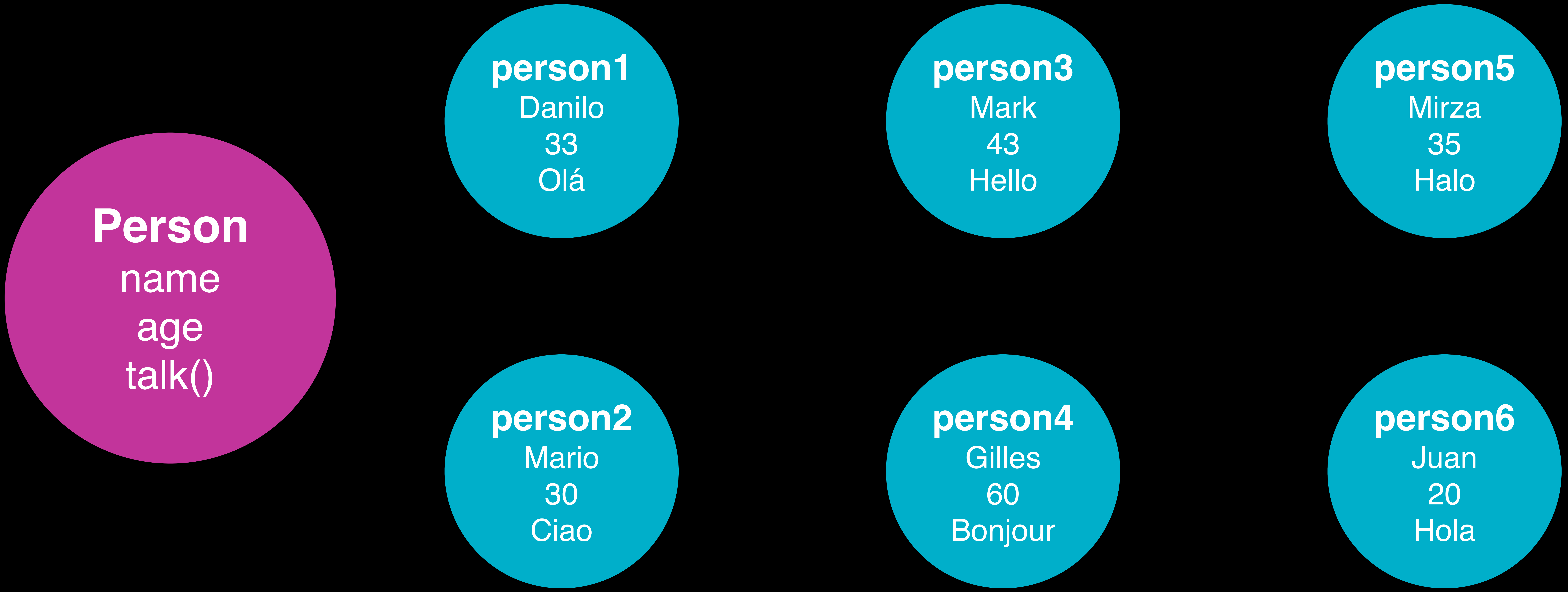
Model and instance



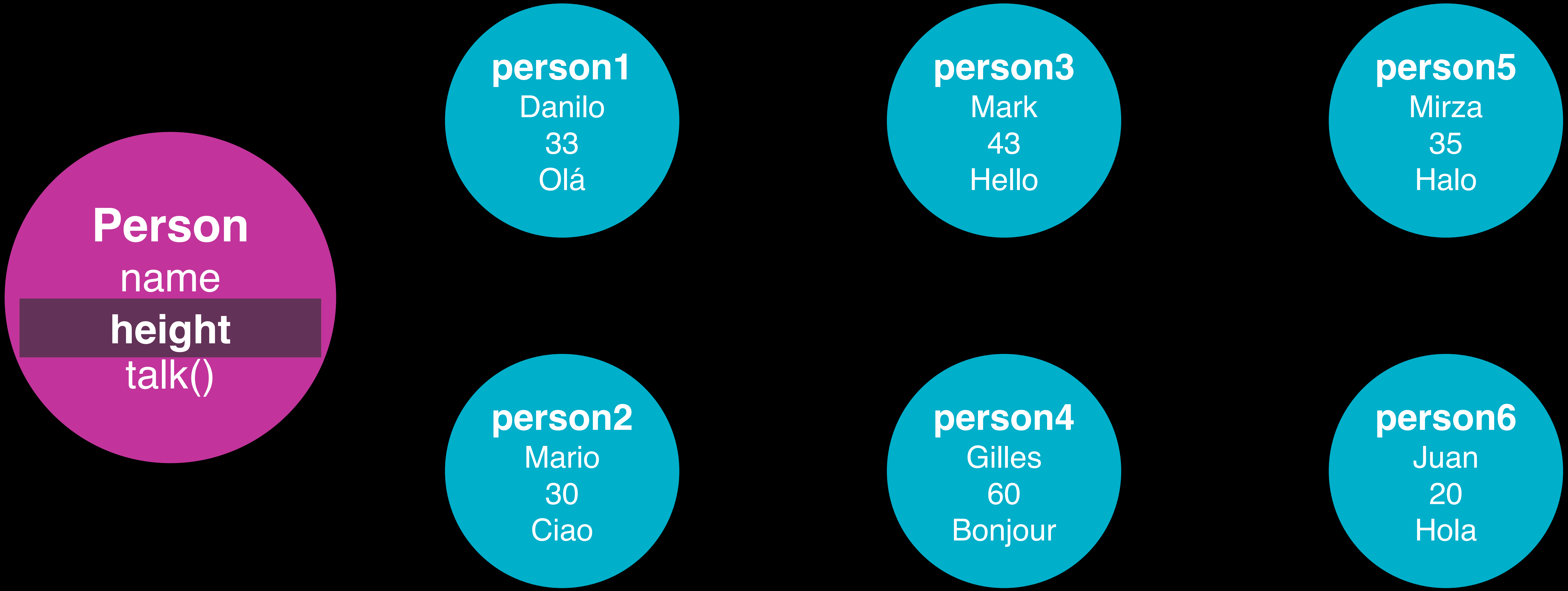
Model and instance



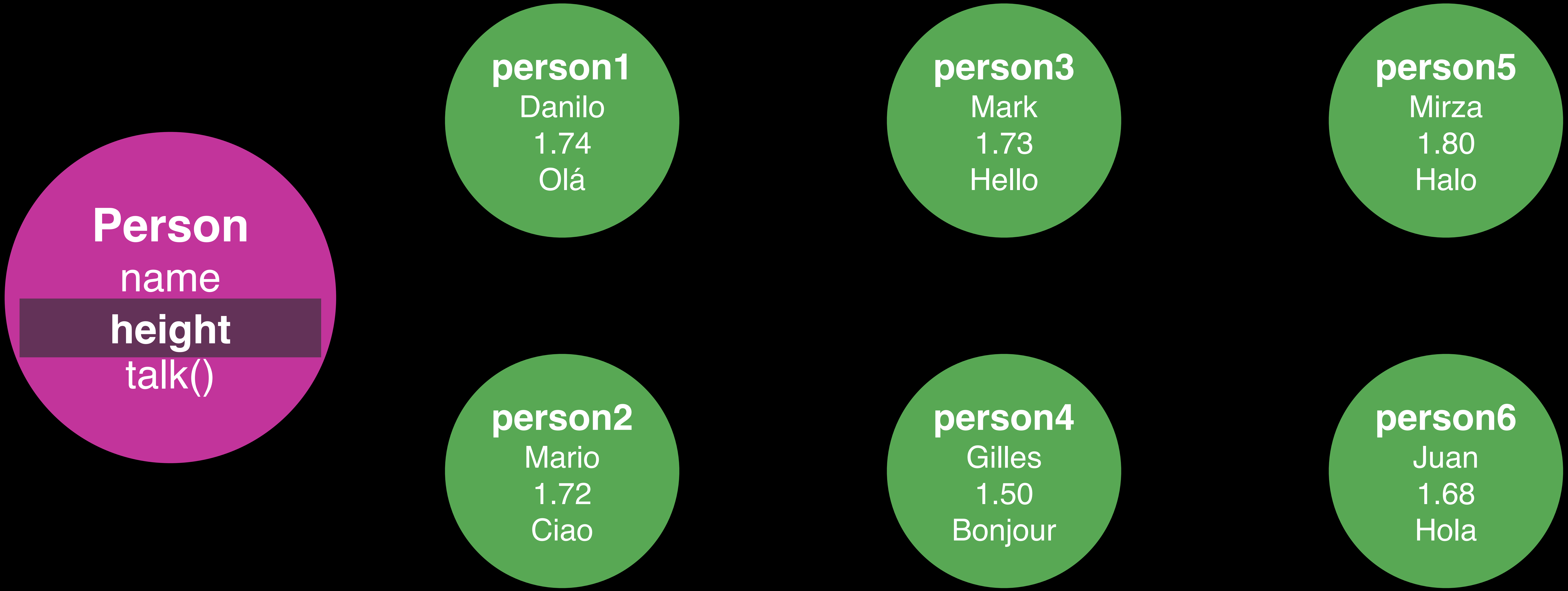
Model and instance



Model and instance



Model and instance



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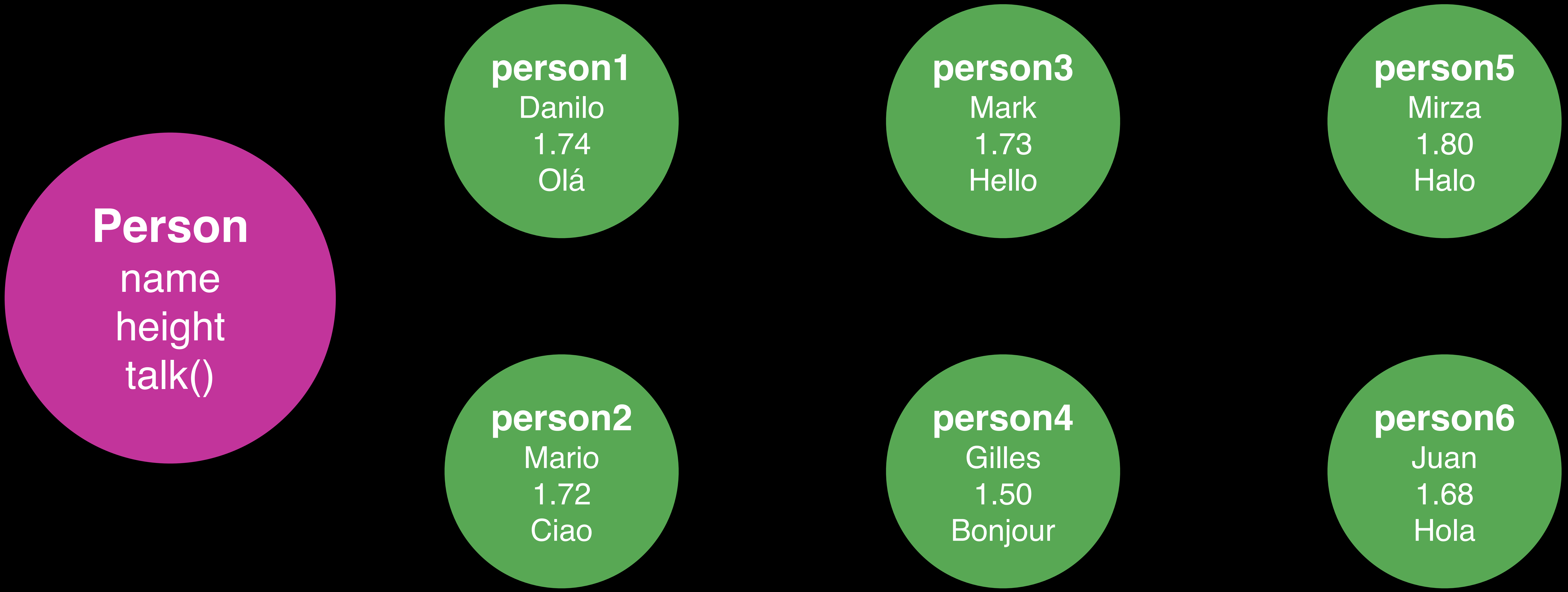

struct

```swift
// Declaring the data model
struct Person {











}
```

```swift
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struct Person {










}
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```swift
// Declaring the data model
struct Person {
    var name: String
    var talkText: String









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    init(name: String, talkText: String = "Olá") {
        self.name = name
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var eu: Person = Person(name: "Danilo")
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}

var eu: Person = Person(name: "Danilo")
eu.talk()

var tu: Person = Person(name: "Mark", talkText: "Hello")
tu.talk()
```

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tu.talk()                                             Hello
```

Hands on

class

Differentiating classes from structs

Classes have inheritance

Classes allow type casting

Classes can have deinitializers

Classes are **reference** type **structs** are **value** type

class

reference type

struct

value type

```swift
struct Dog {
    var name: String
    var isNice: Bool
}
```

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struct Dog {
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struct Dog {
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var toto: Dog = Dog(name: "Sete", isNice: true)
var rex:  Dog = toto
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print(toto.name)
print(rex.name)
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print(toto.name)                                         Sete
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print(toto.name)                                     Sete
print(rex.name)                                      Sete

toto.name = "Xuxa"

print(toto)
print(rex)
```

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print(toto)                                             Xuxa
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VALUE TYPE

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toto.name = "Xuxa"

print(toto)                                             Xuxa
print(rex)                                              Xuxa
```

VALUE TYPE

REFERENCE TYPE

VALUE TYPE

REFERENCE TYPE

Instance 1

```
var toto = "Sete"
```

VALUE TYPE

REFERENCE TYPE

Instance 1

```
var toto = "Sete"
```

Instance 2

VALUE TYPE

REFERENCE TYPE

Instance 1 `var toto = "Sete"`

Instance 2 `var rex = toto`

Create

a copy

VALUE TYPE

Instance 1

```
var toto = "Sete"
```

Instance 2

```
var rex = toto
```

Create

a copy

REFERENCE TYPE

```
var toto = "Sete"
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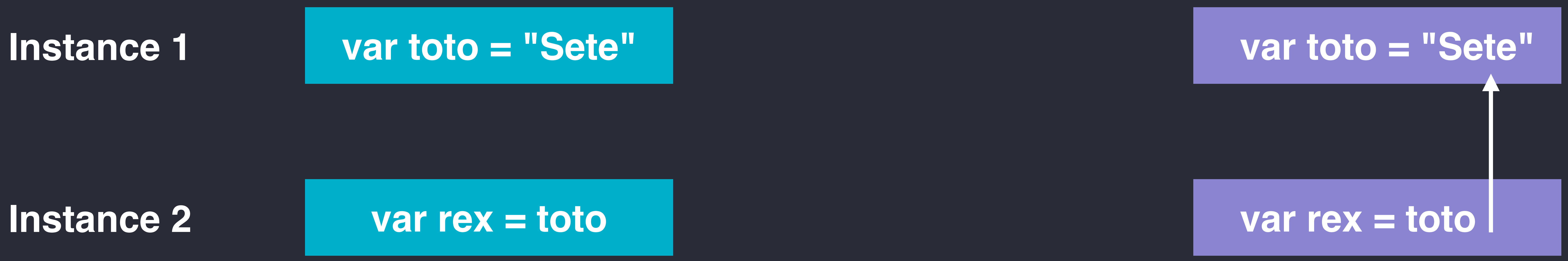
	VALUE TYPE	REFERENCE TYPE
Instance 1	var toto = "Sete"	var toto = "Sete"
Instance 2	var rex = toto	var rex = toto
	Create a copy	

VALUE TYPE

REFERENCE TYPE



Create

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Point to

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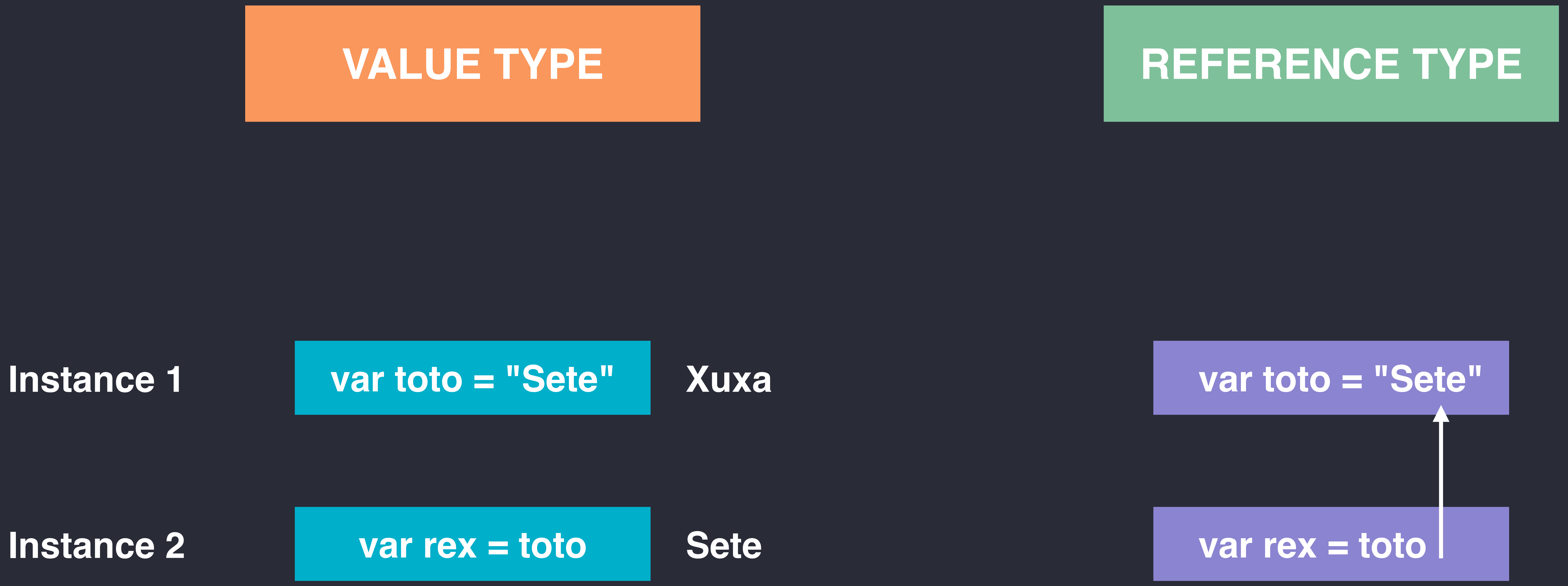

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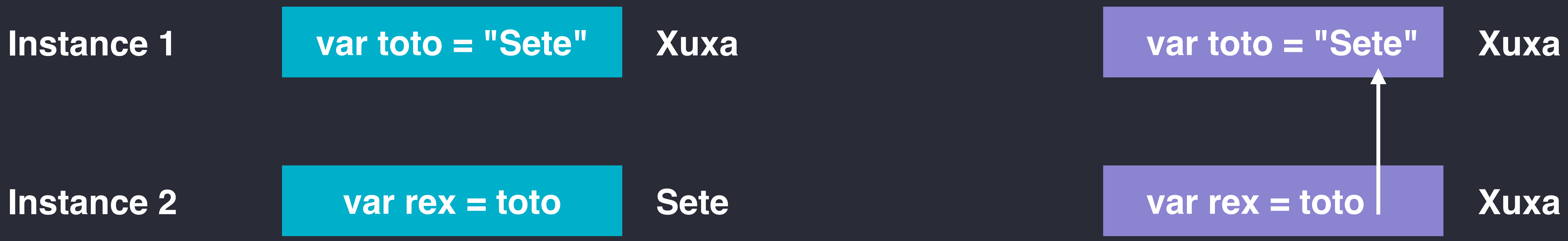

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Hands on