More about Sequences

Collections vs sequences

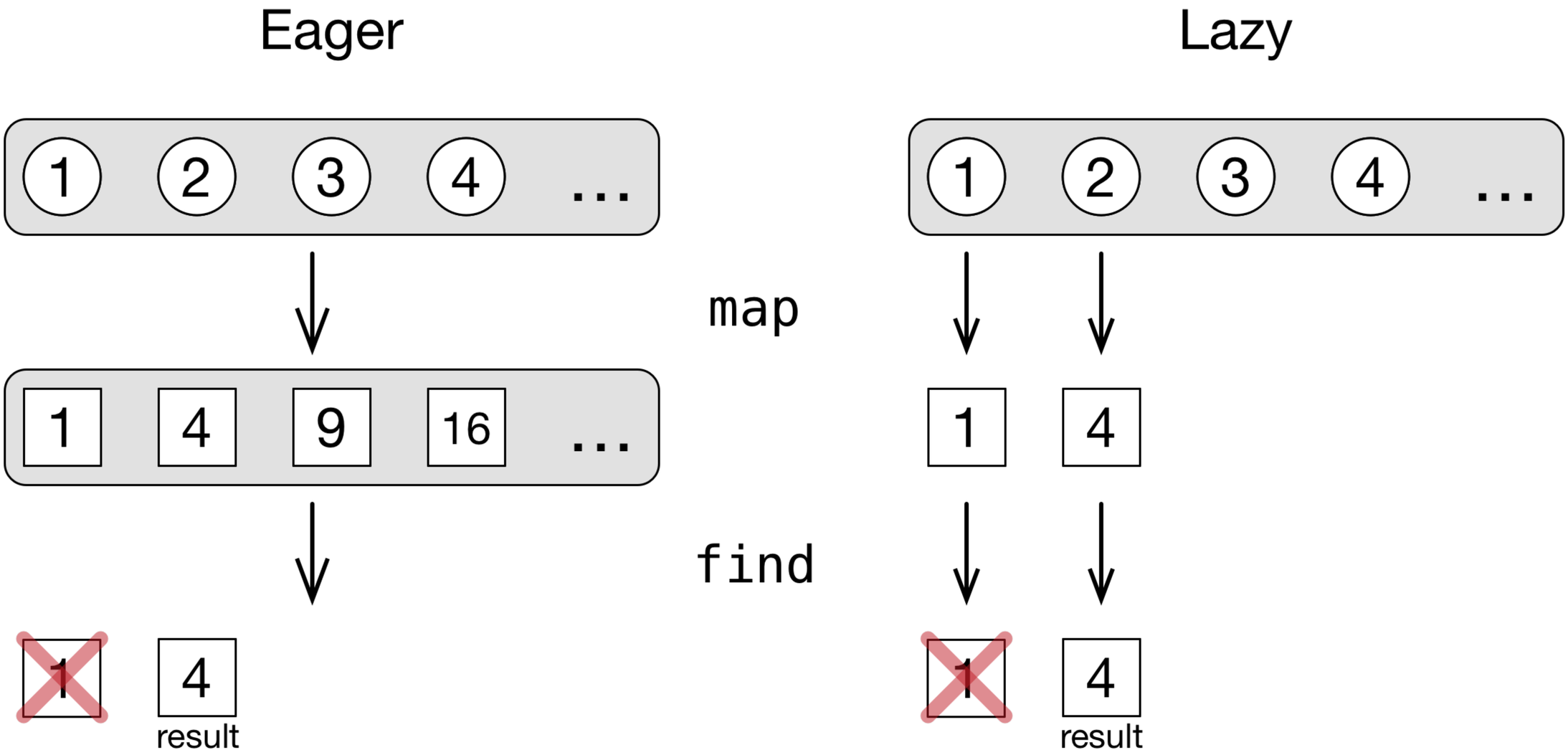
```
listOf(1, 2, 3, 4)
    .map { it * it }
    .find { it > 3 }
```

4

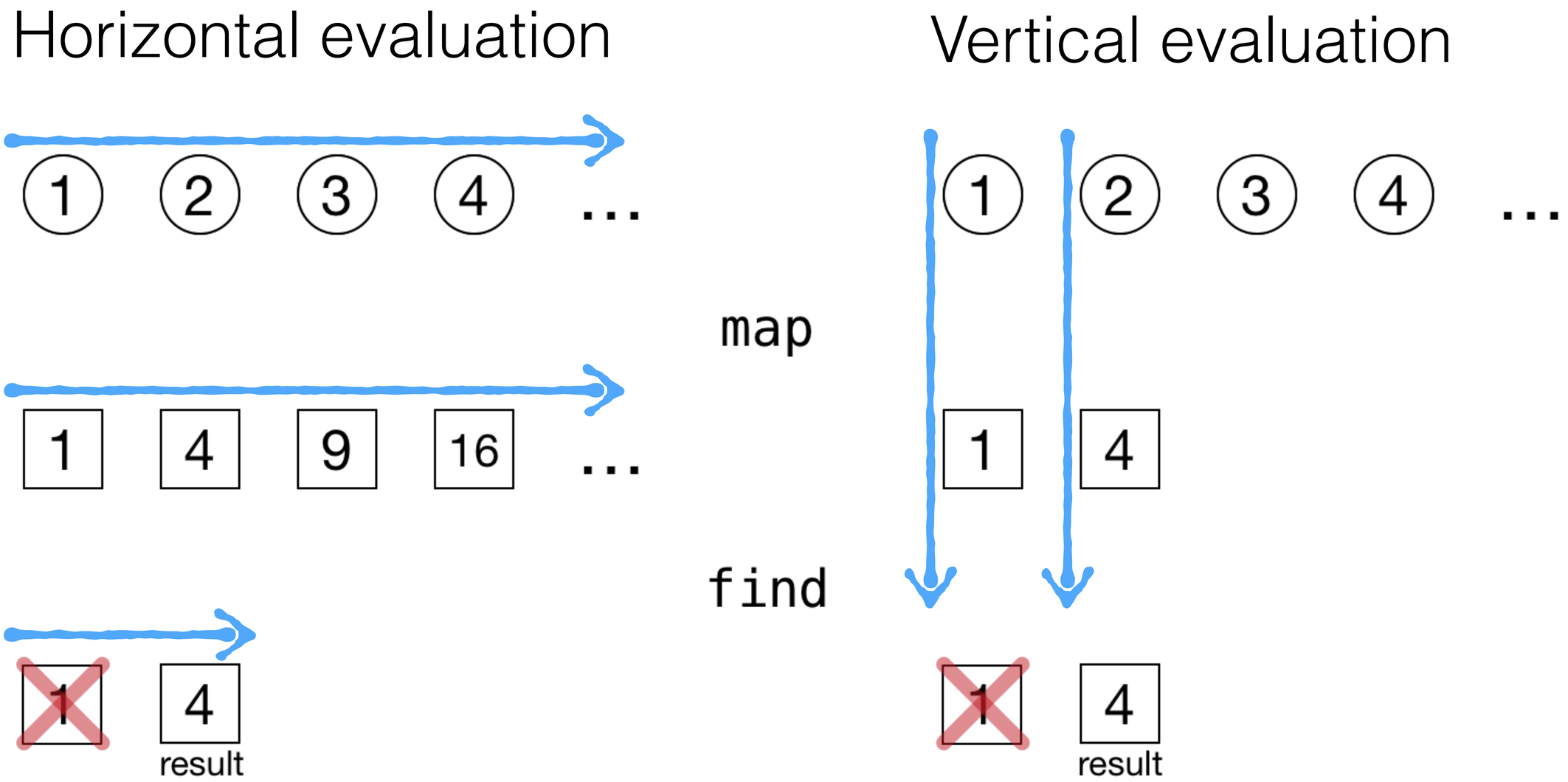
```
listOf(1, 2, 3, 4)
    .asSequence()
    .map { it * it }
    .find { it > 3 }
```

4

Collections vs Sequences



Collections vs Sequences



Write the output after the evaluation of the expressions below.

```
fun m(i: Int): Int {
    print("m$i ")
    return i
}
```

```
fun f(i: Int): Boolean {
    print("f$i ")
    return i % 2 == 0
}
```

```
val list = listOf(1, 2, 3, 4)
list.map(::m).filter(::f)
```

m1 m2 m3 m4 f1 f2 f3 f4

```
list.asSequence().map(::m).filter(::f).toList()
```

?

```
list.asSequence().map(::m).filter(::f)
```

?

Write the output after the evaluation of the expressions below.

```
fun m(i: Int): Int {
    print("m$i ")
    return i
}
```

```
fun f(i: Int): Boolean {
    print("f$i ")
    return i % 2 == 0
}
```

```
val list = listOf(1, 2, 3, 4)
```

```
list.map(::m).filter(::f)
```

m1 m2 m3 m4 f1 f2 f3 f4

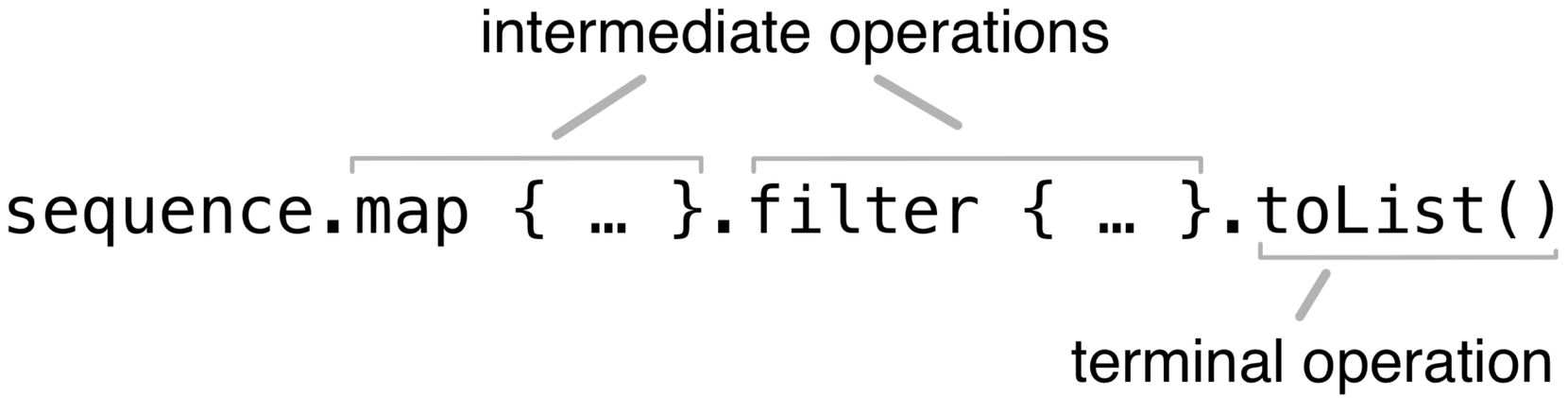
```
list.asSequence().map(::m).filter(::f).toList()
```

m1 f1 m2 f2 m3 f3 m4 f4

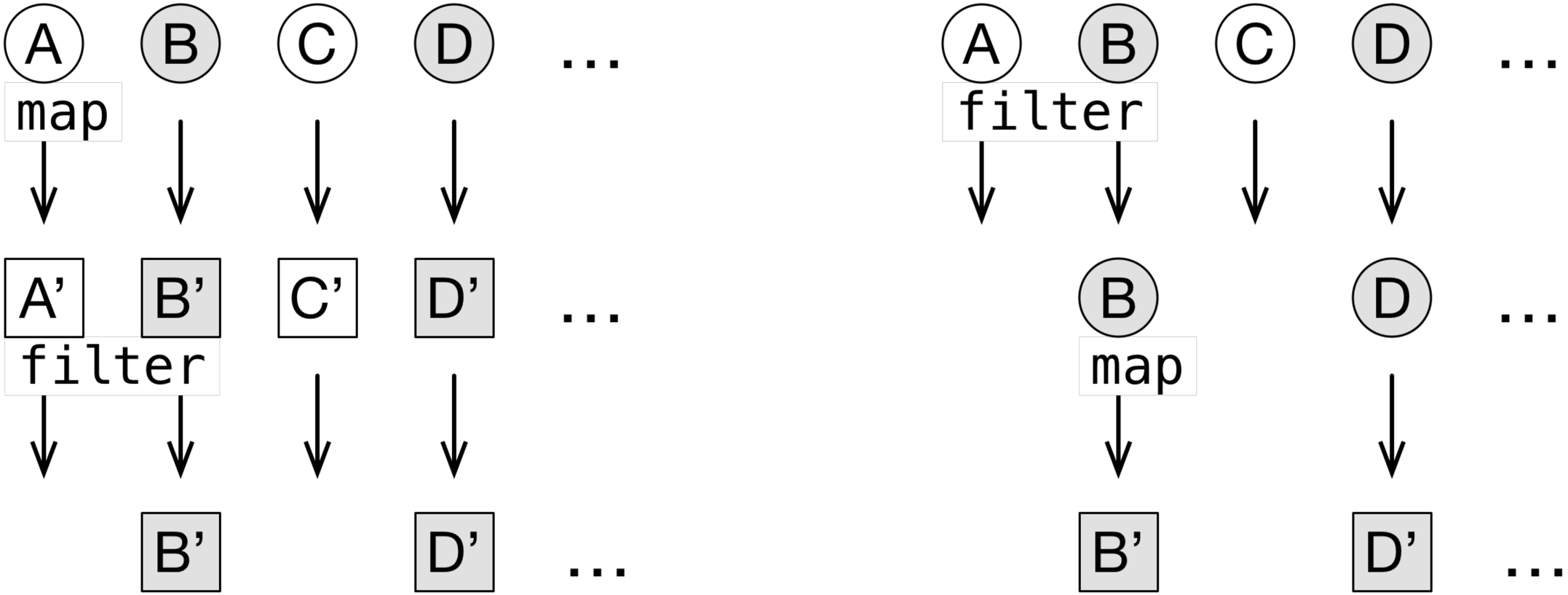
```
list.asSequence().map(::m).filter(::f)
```

(nothing is printed)

Nothing happens until the terminal operation is called



Order of operations is important



Write the output after the evaluation of the last expression below.

```
fun m(i: Int): Int {
    print("m$i ")
    return i
}
```

```
fun f(i: Int): Boolean {
    print("f$i ")
    return i % 2 == 0
}
```

```
val list = listOf(1, 2, 3, 4)

list.asSequence().map(::m).filter(::f).toList()
```

m1 f1 m2 f2 m3 f3 m4 f4

```
list.asSequence().filter(::f).map(::m).toList()
```

?

Write the output after the evaluation of the last expression below.

```
fun m(i: Int): Int {
    print("m$i ")
    return i * i
}
```

```
fun f(i: Int): Boolean {
    print("f$i ")
    return i % 2 == 0
}
```

```
val list = listOf(1, 2, 3, 4)

list.asSequence().map(::m).filter(::f).toList()
```

m1 f1 m2 f2 m3 f3 m4 f4

```
list.asSequence().filter(::f).map(::m).toList()
```

f1 f2 m2 f3 f4 m4

Collections vs Sequences

intermediate collections are created on chained calls
vs
lambdas are not inlined