

# Reactive Systems In Java

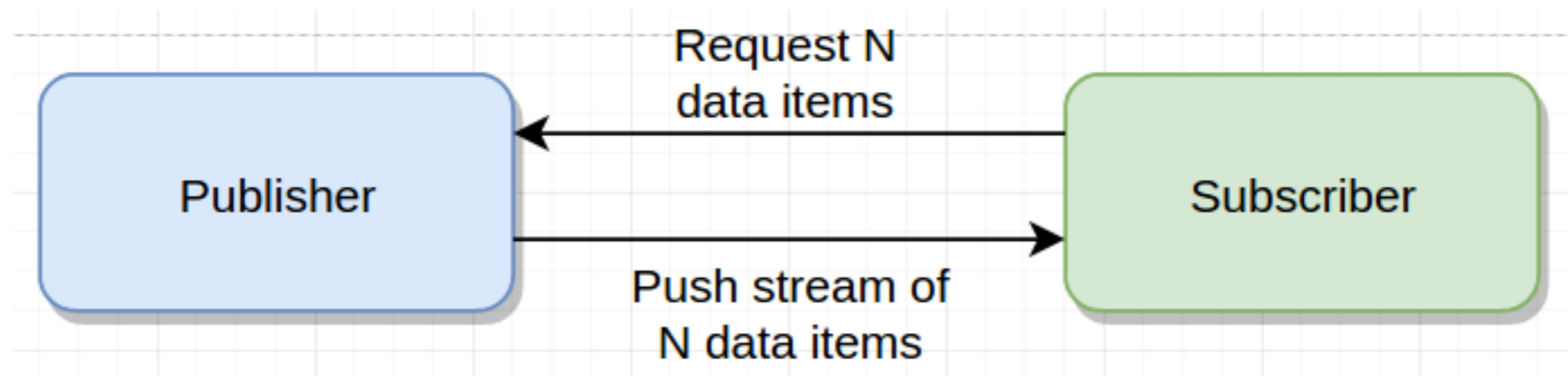
@nicolasbarbe - Magnolia

# Reactive Systems In Java

- **Overview**
- **Live coding**
  - Flux creation
  - Time manipulation
  - Reactive clients
  - Reactive services
  - Resilience patterns

# Reactive Streams Specifications

Publisher<T>  
Subscriber<T>  
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<http://www.reactive-streams.org>

# Reactive Streams in Java

- **Implementations**
  - Vert.x
  - Akka
  - RxJava
  - Reactor
  - ... (more : <http://www.reactive-streams.org/announce-1.0.0>)
- **Java 9** - `java.util.concurrent.Flow`

# Spring Framework 5

- Complete support of Reactive Programming Model
  - Reactive and functional web framework
  - Reactive HTTP client
  - Reactive repositories
  - Reactive security
  - Spring Boot (2.0.0)

# Reactor

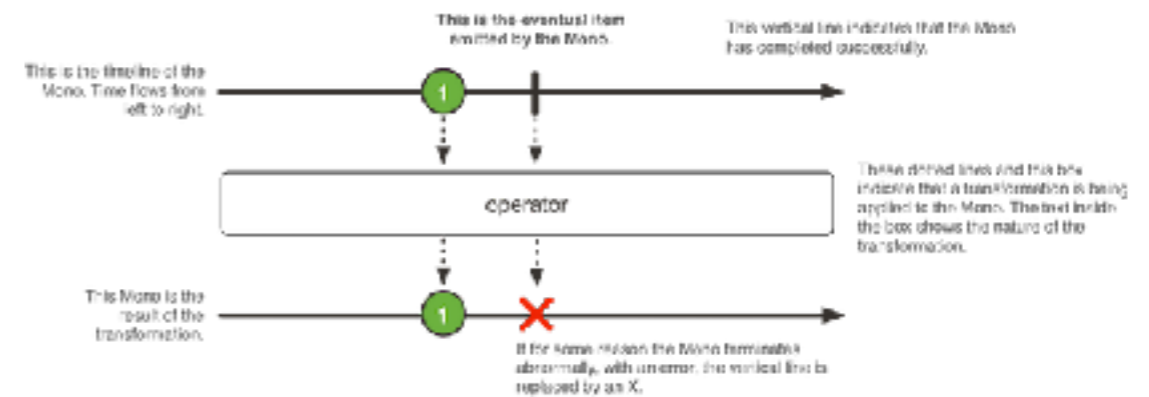
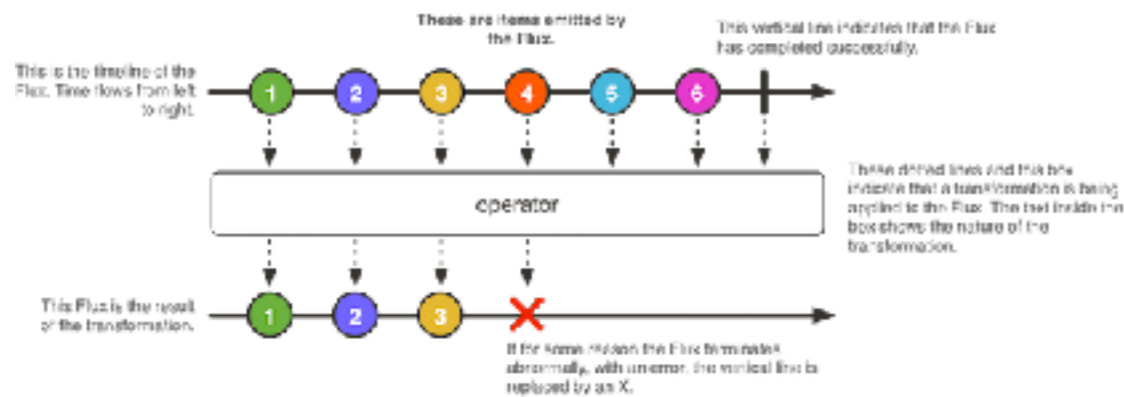
## Flux

A **reactive stream** that emits 0 to N elements, and then complete

## Mono

A **reactive stream** that completes successfully by emitting an element

## Operators



# range

```
Flux.range(1, 5)
```

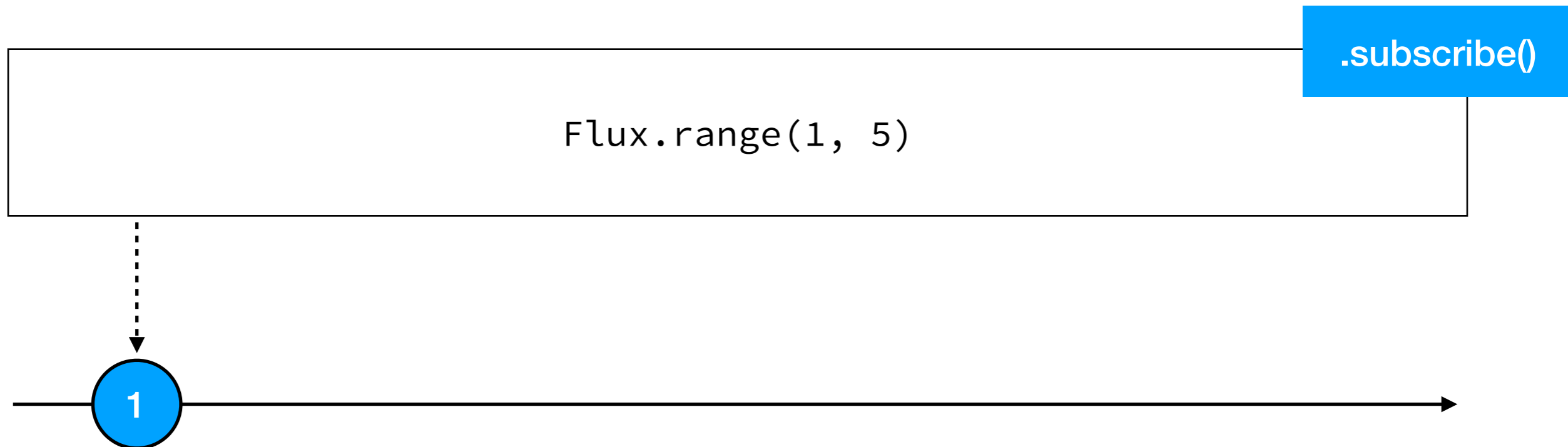
# range

```
Flux.range(1, 5)
```

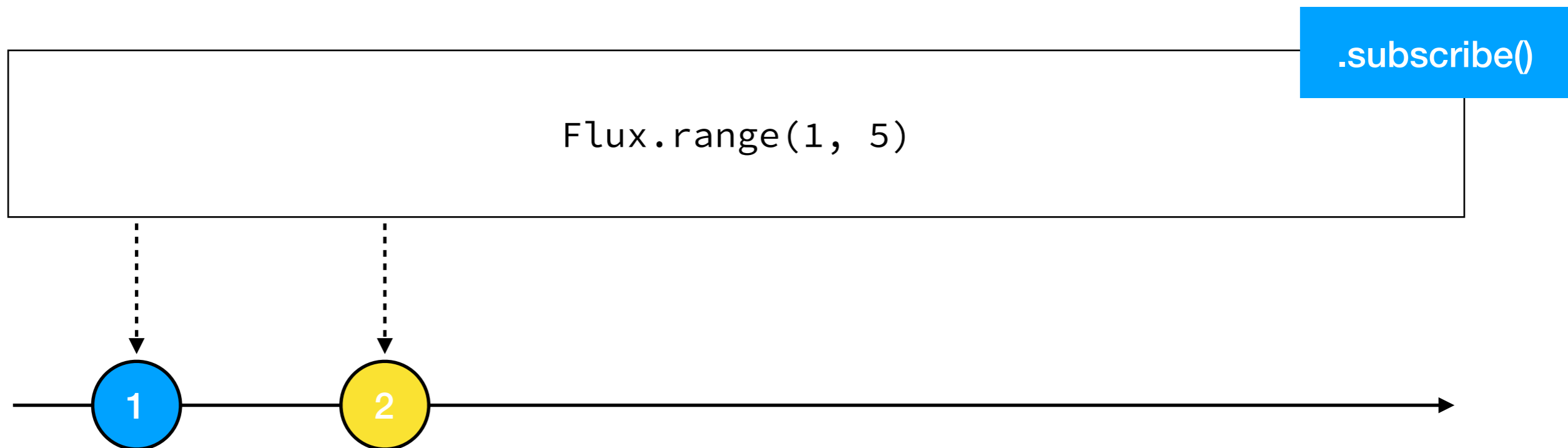
```
.subscribe()
```



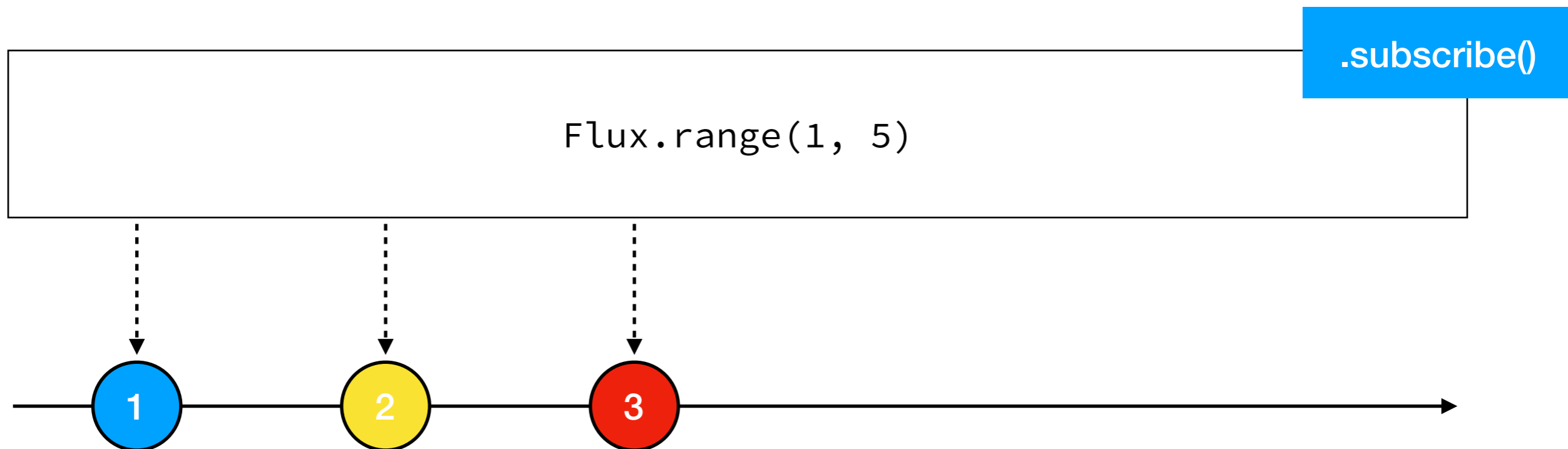
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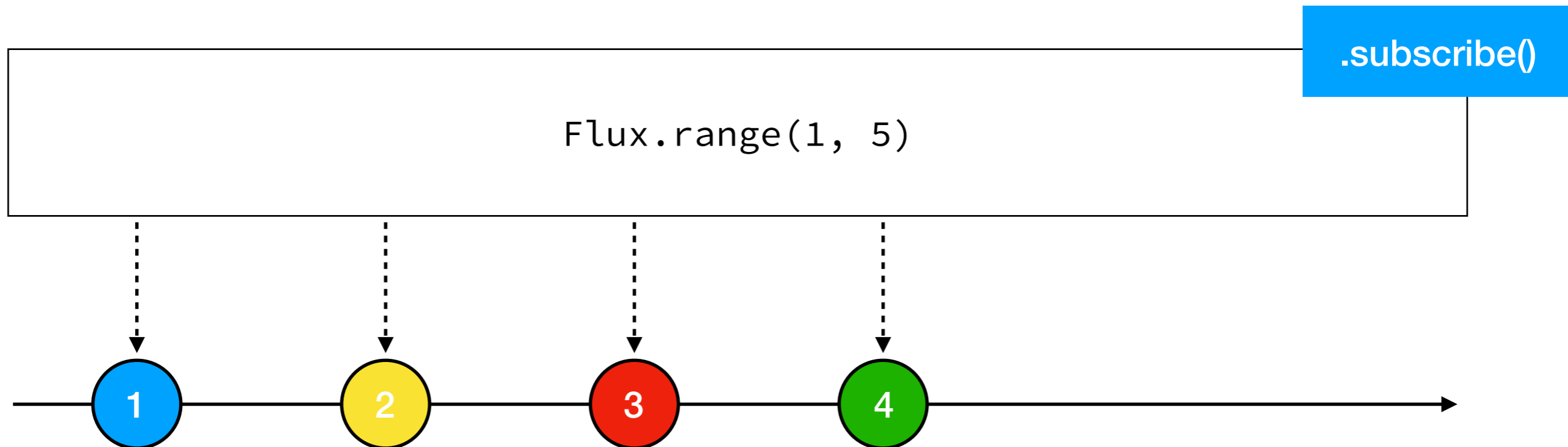
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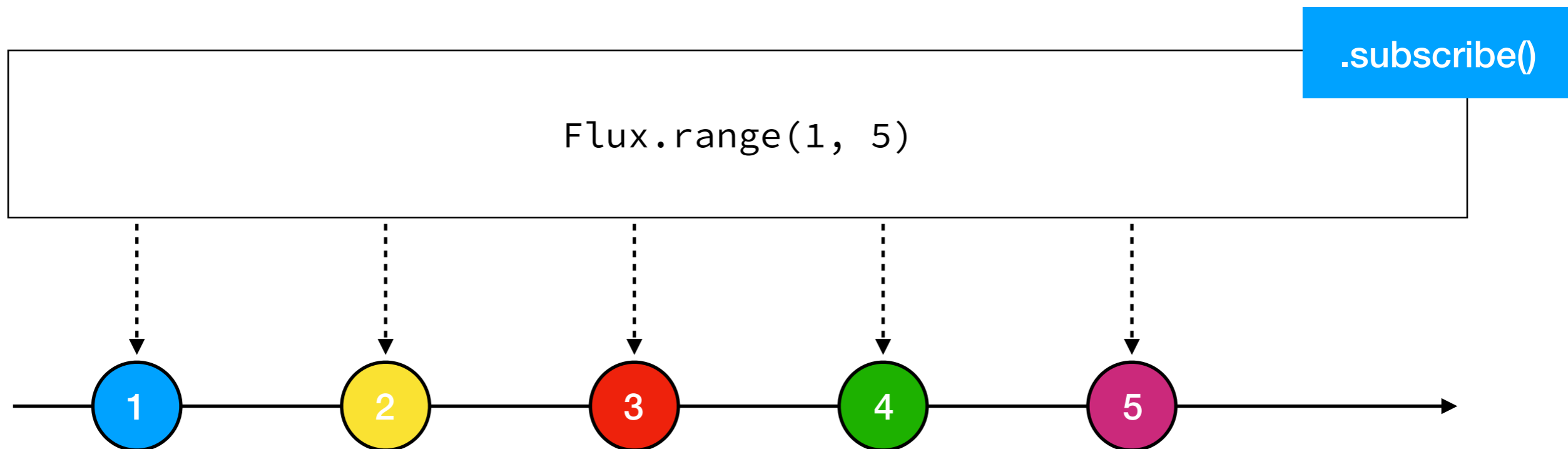
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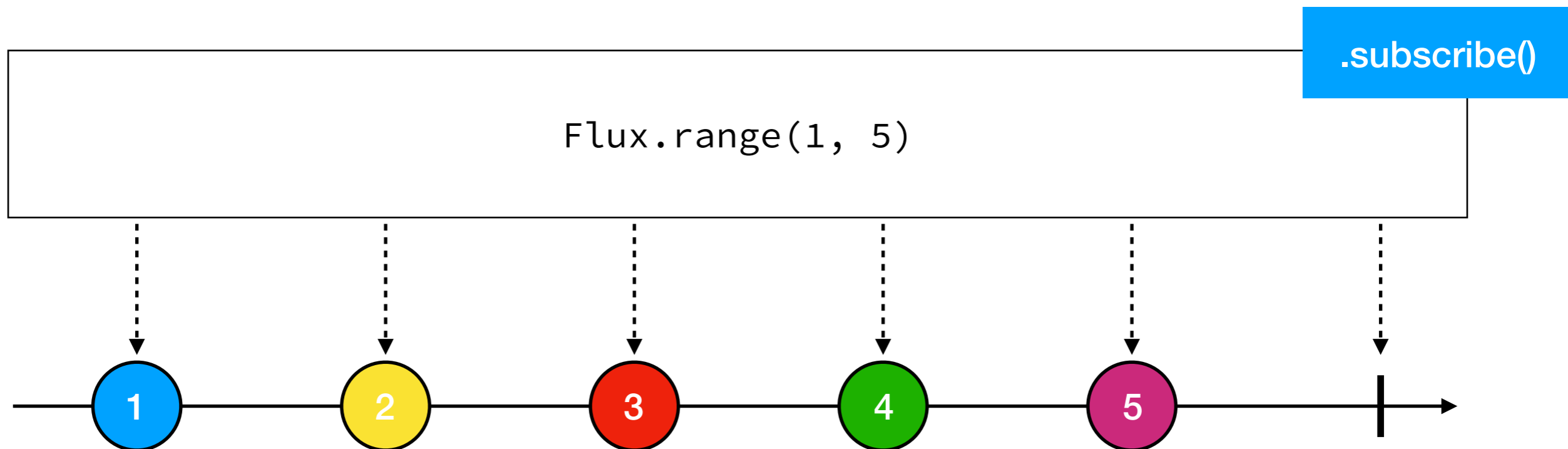
# range



# range



# range



# map

```
Flux.range(1, 5)
```

```
.map( i -> i*2 )
```

# map

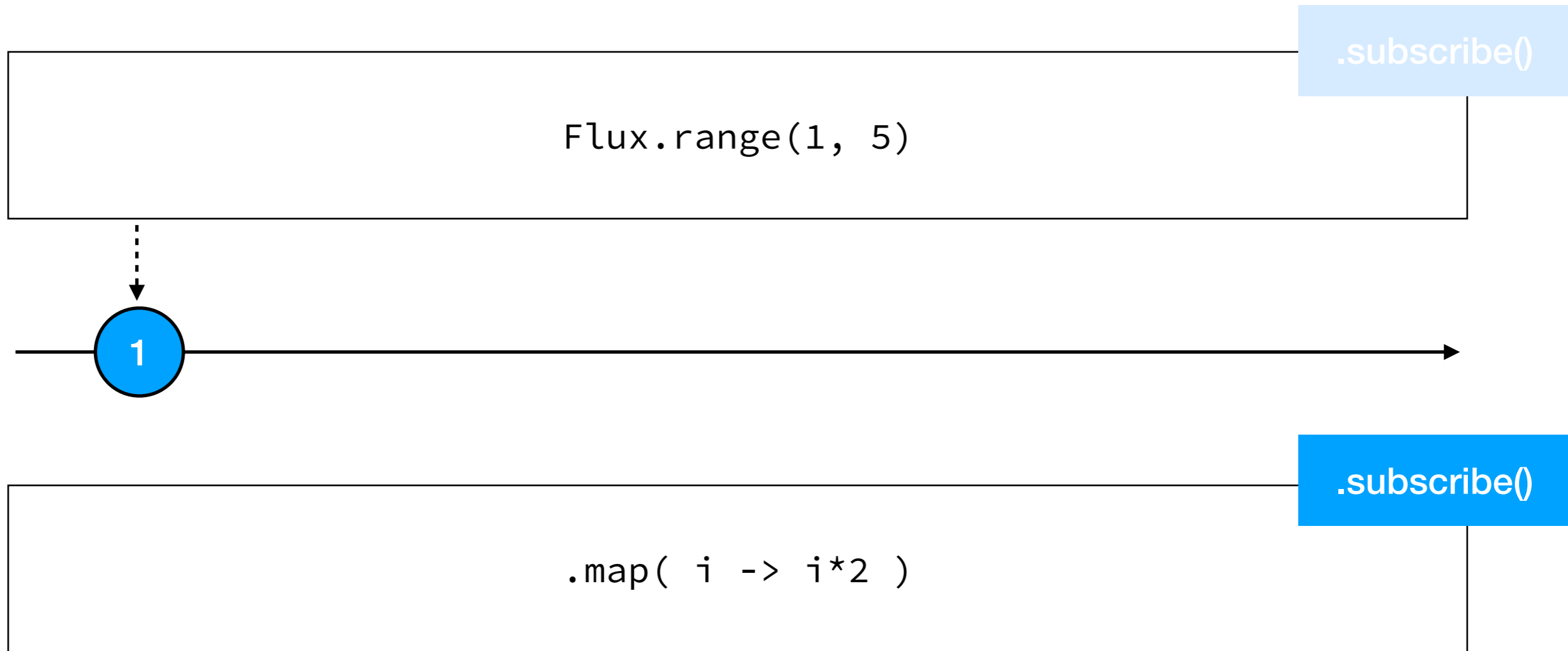
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.map( i -> i*2 )
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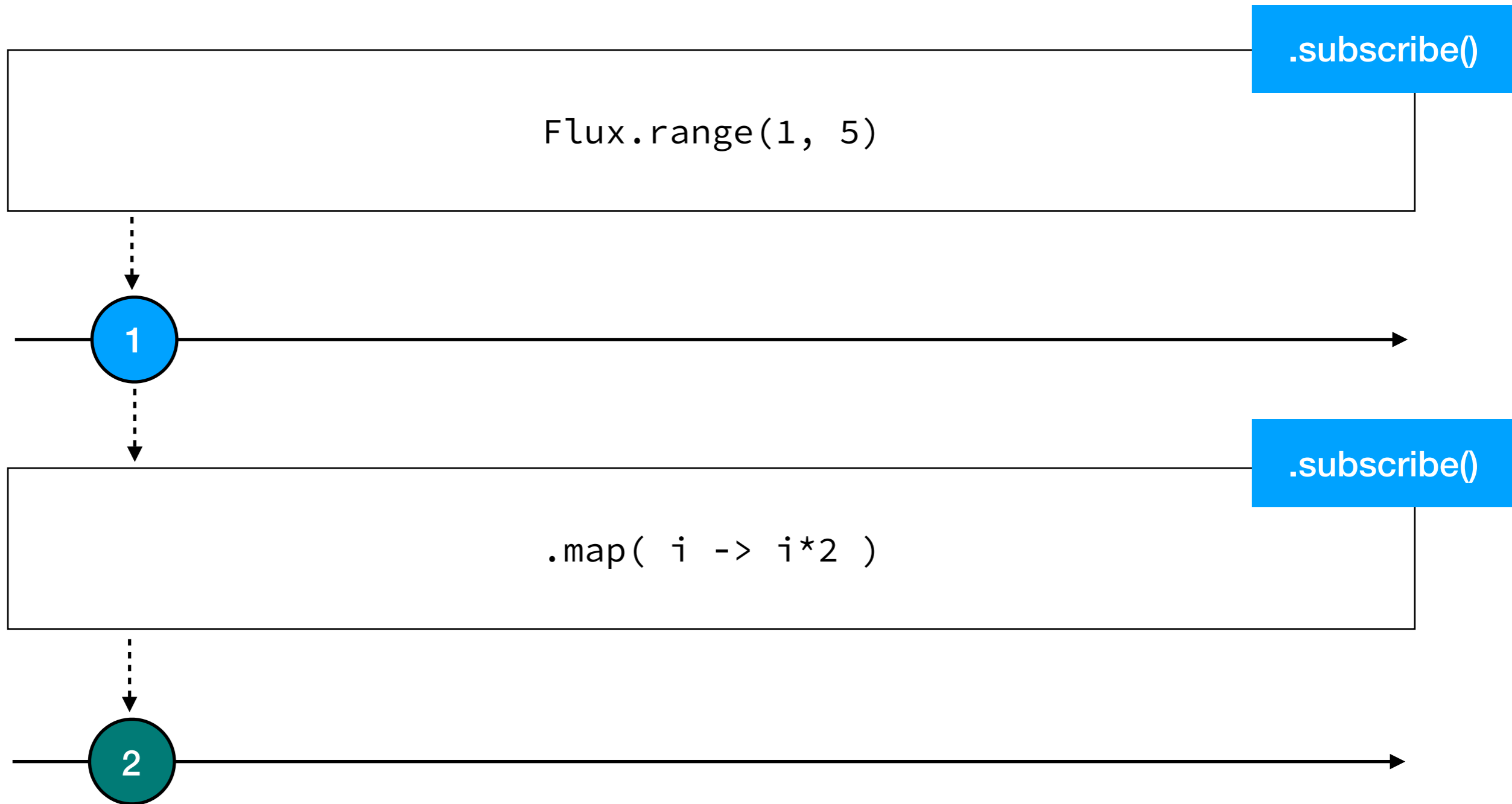
```
.subscribe()
```



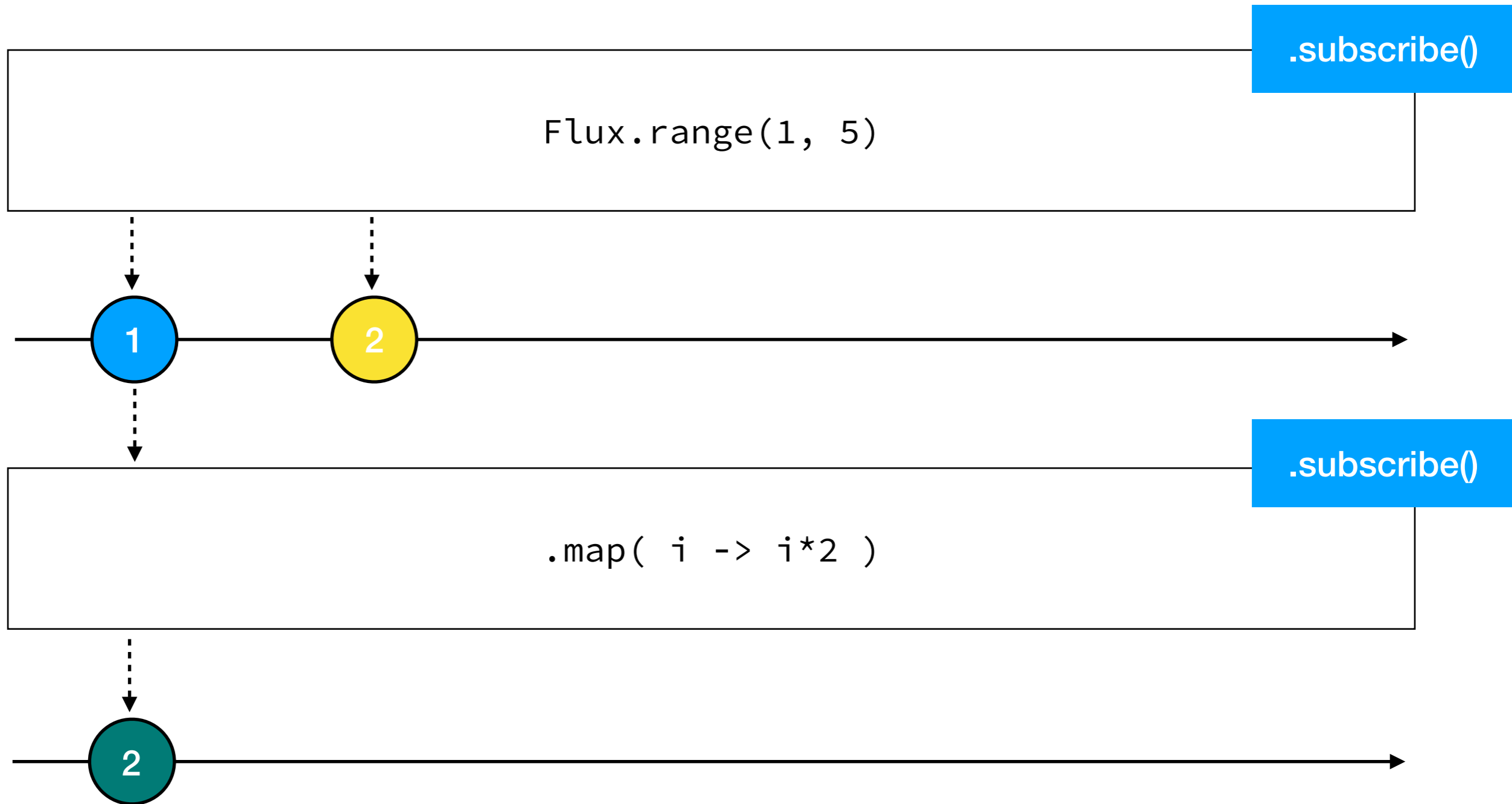
# map



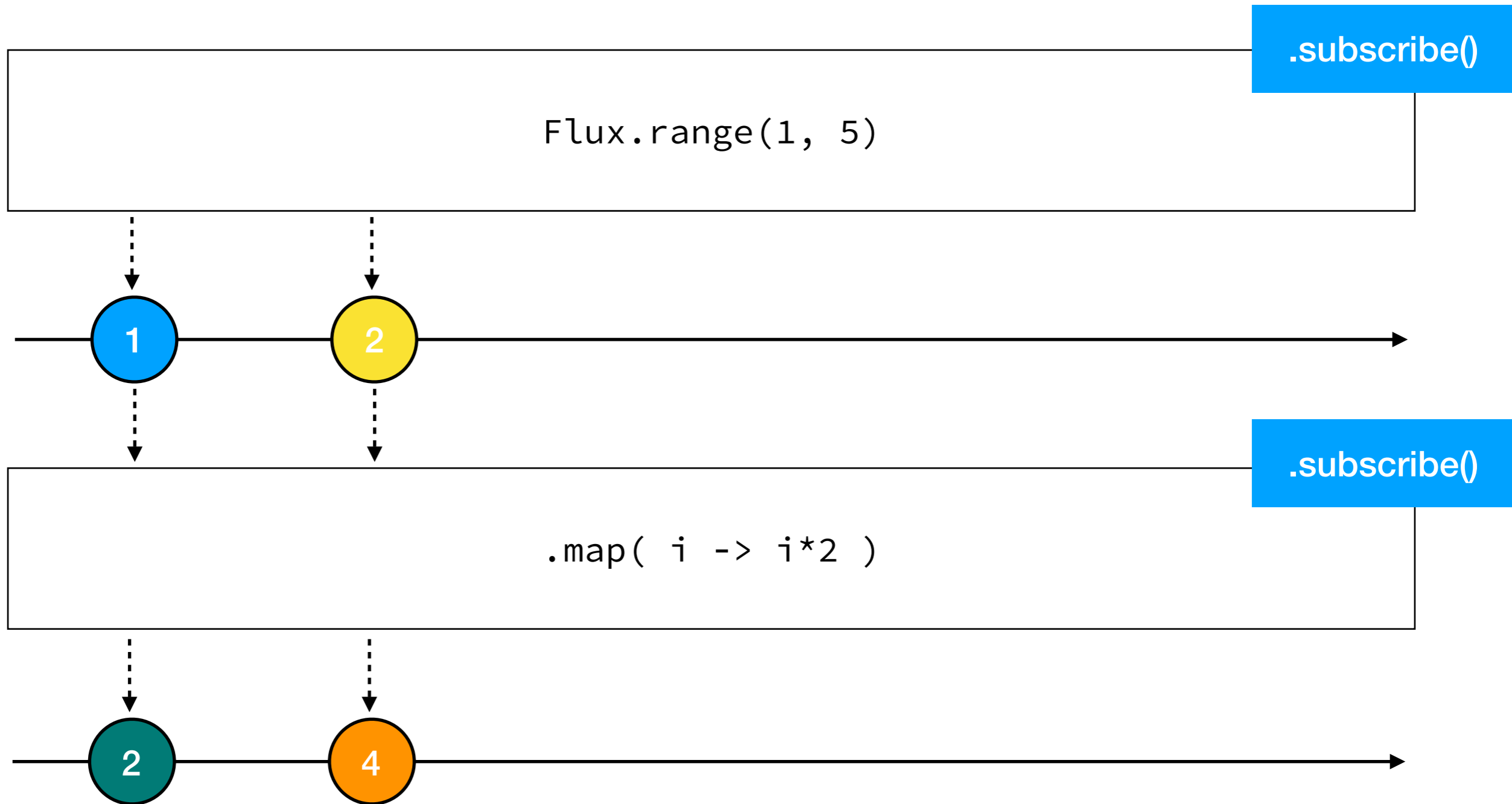
# map



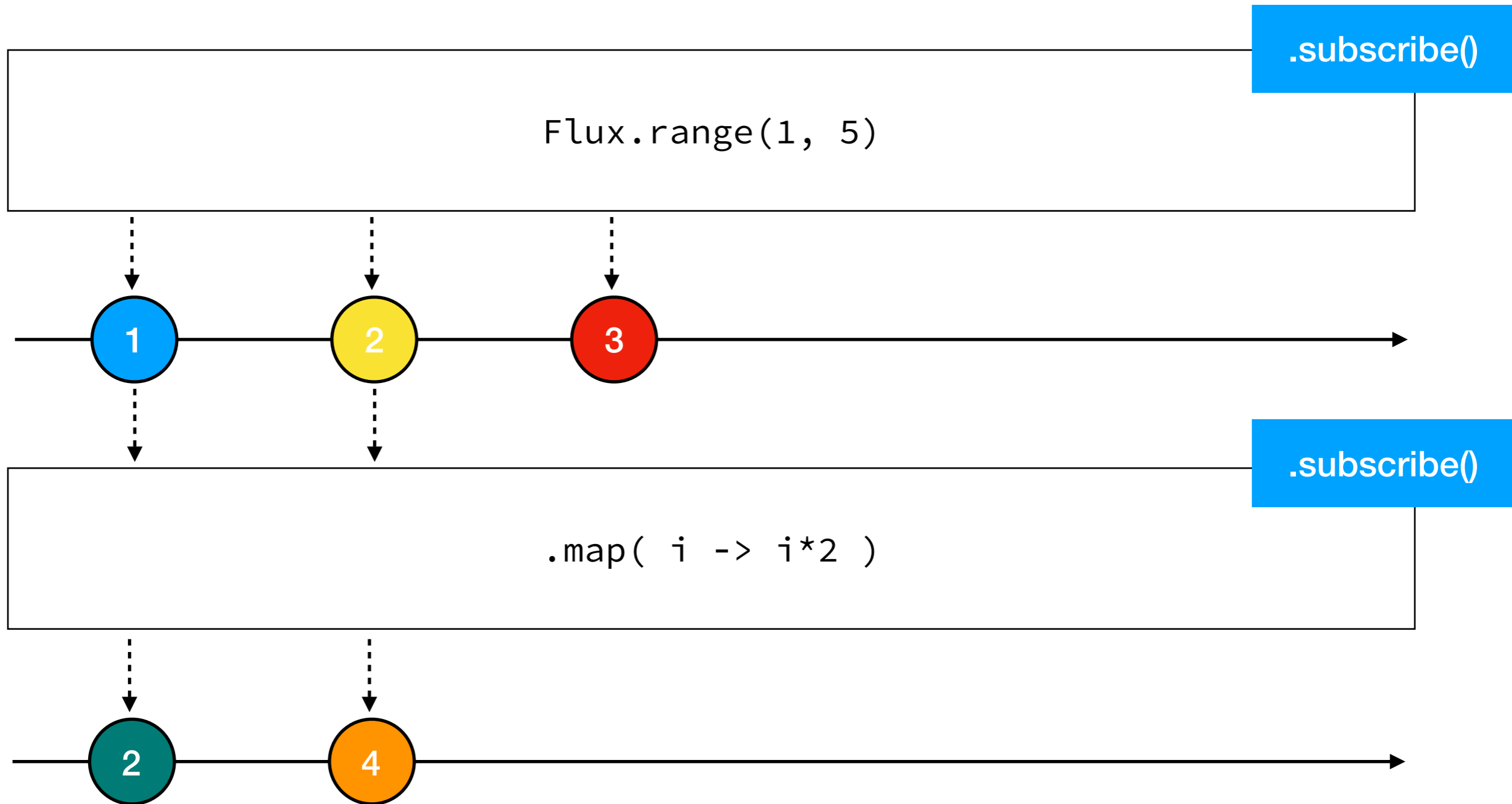
# map



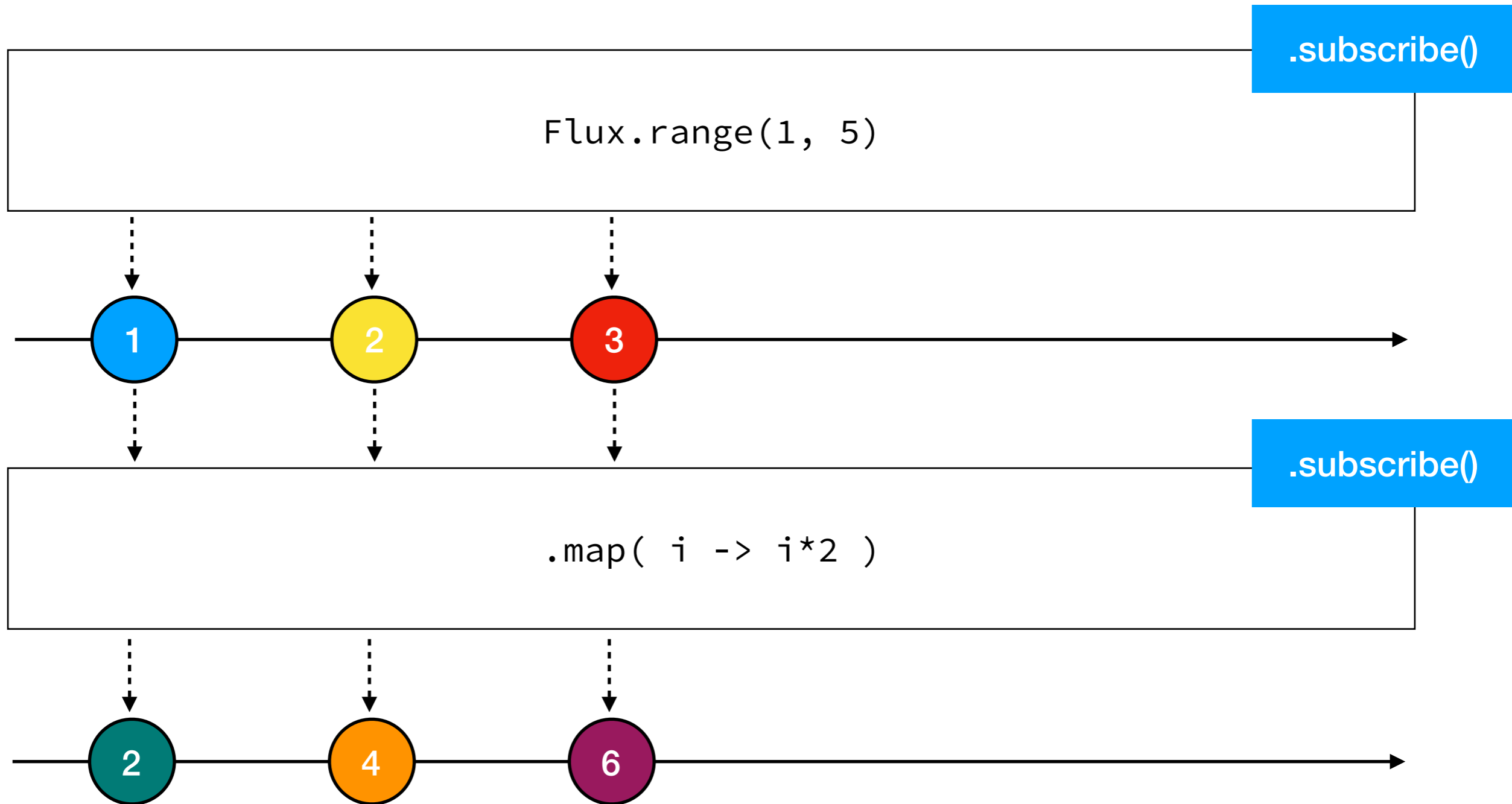
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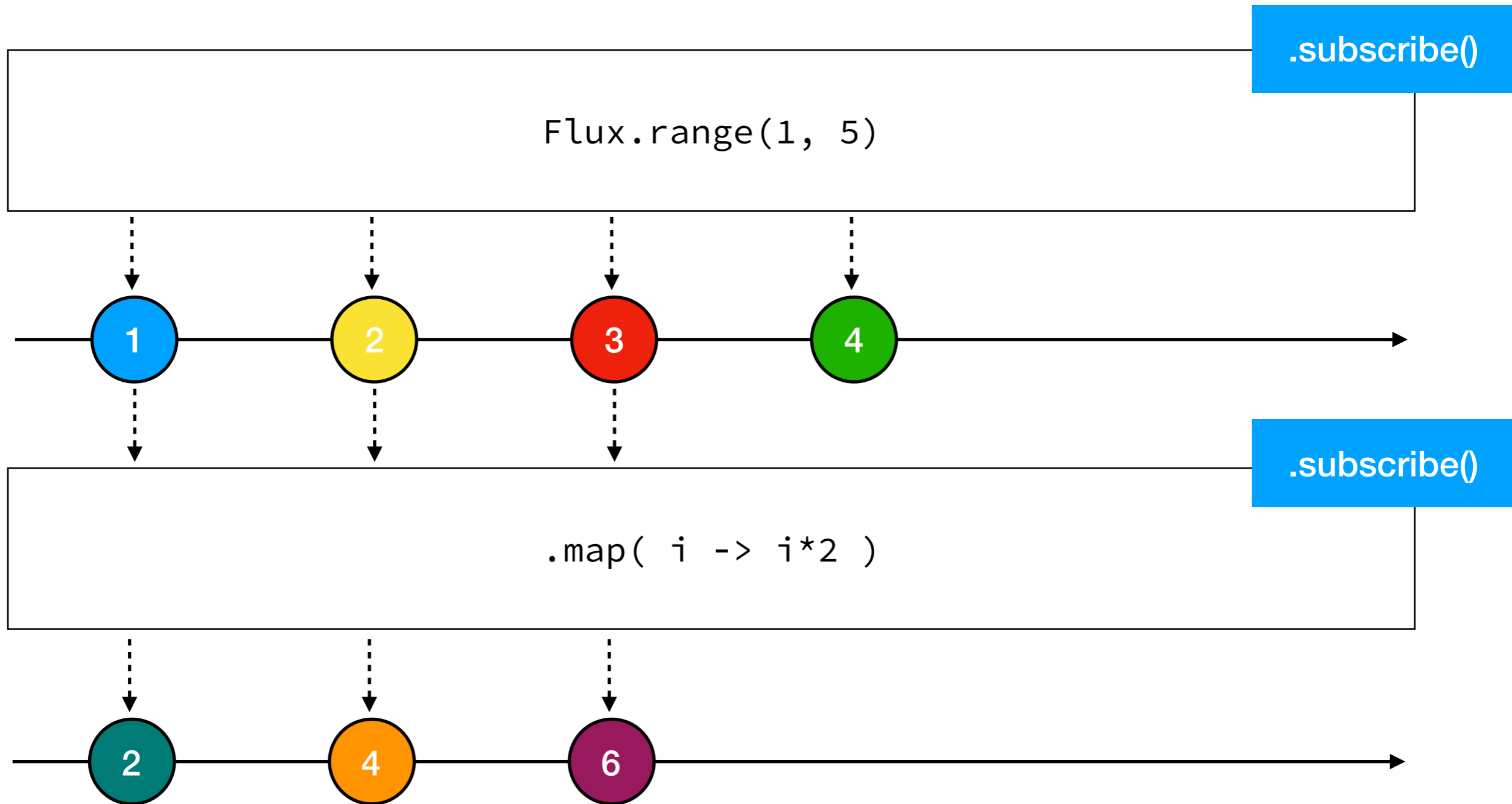
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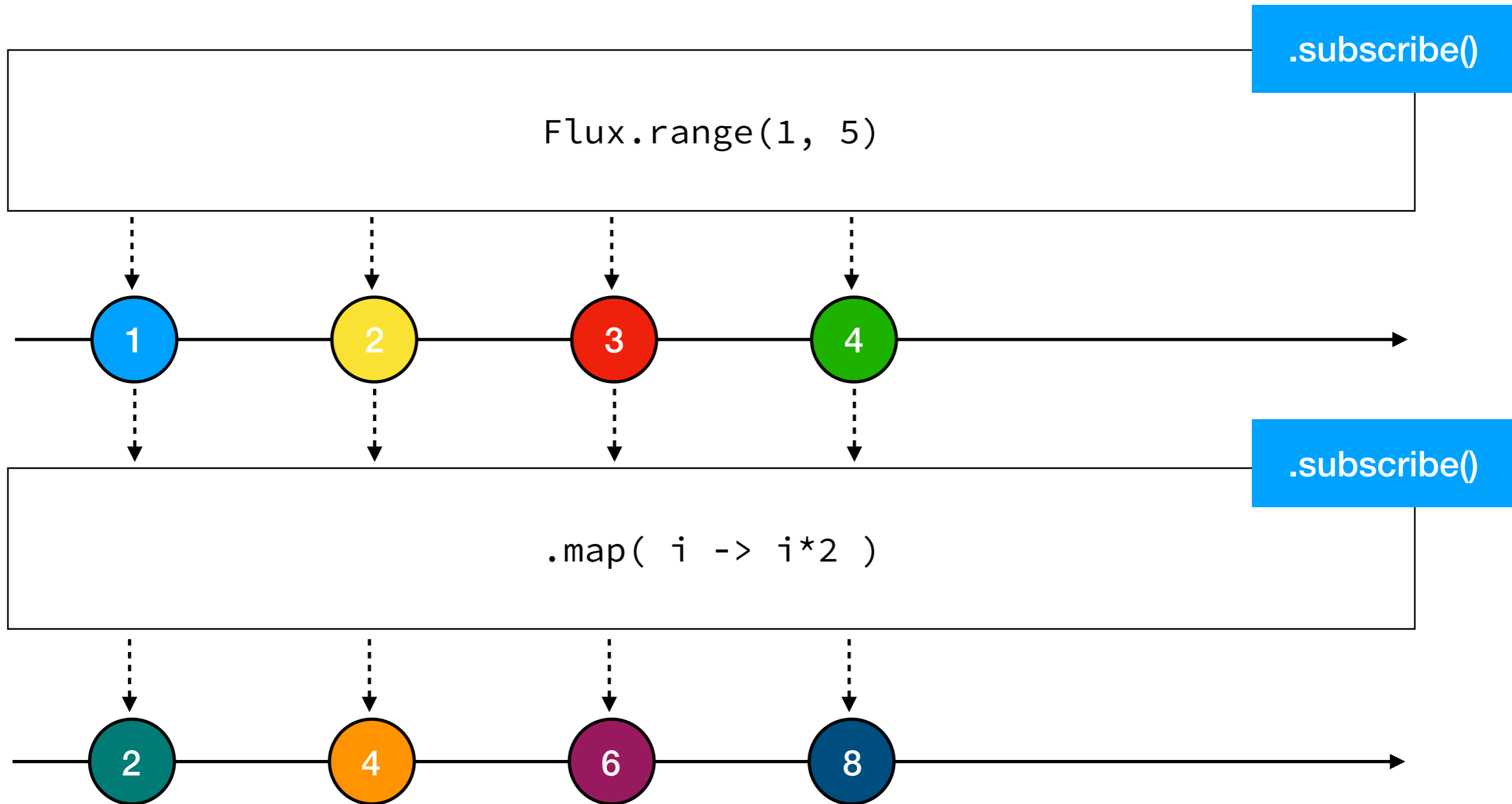
# map



# map

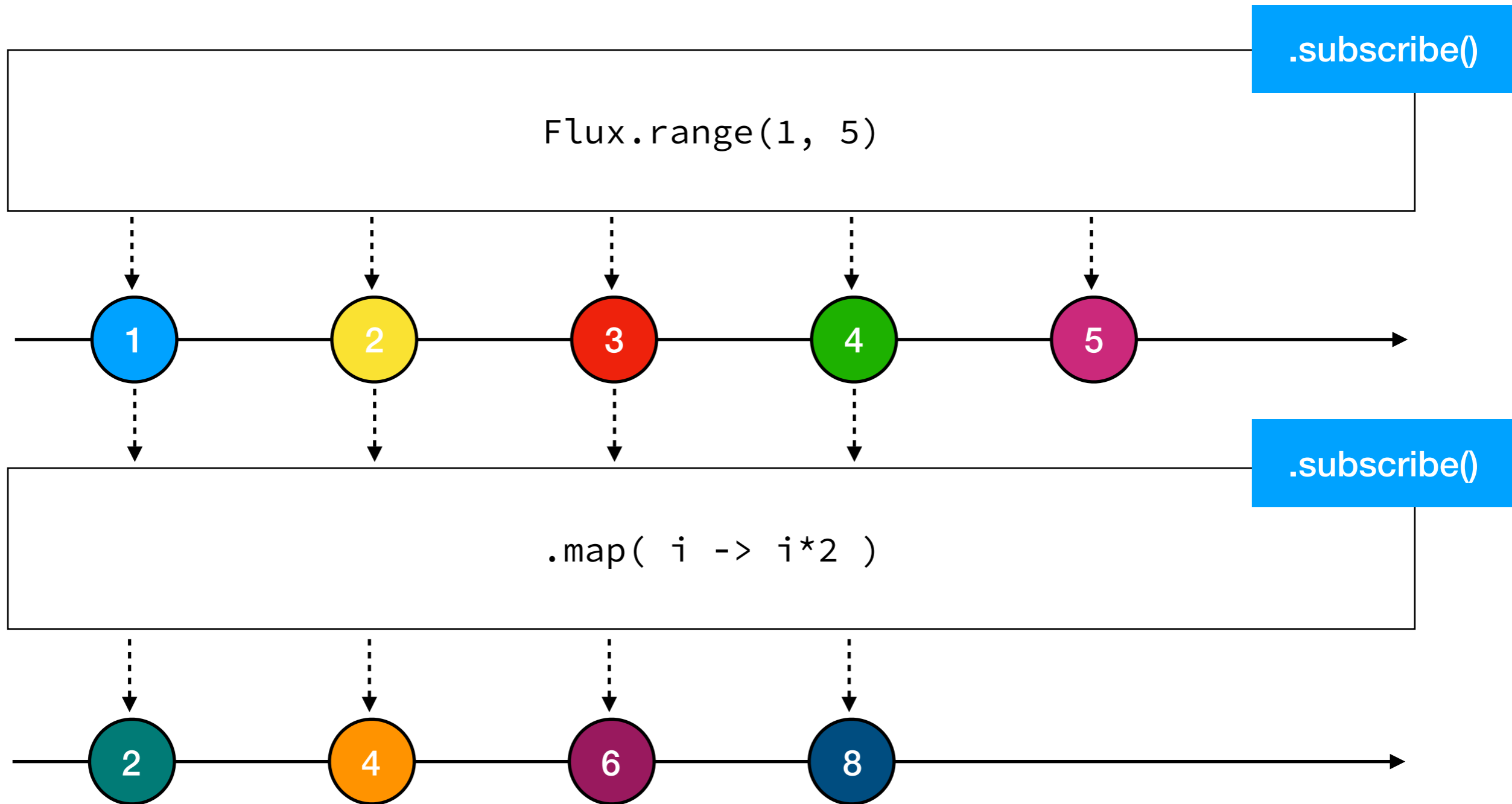


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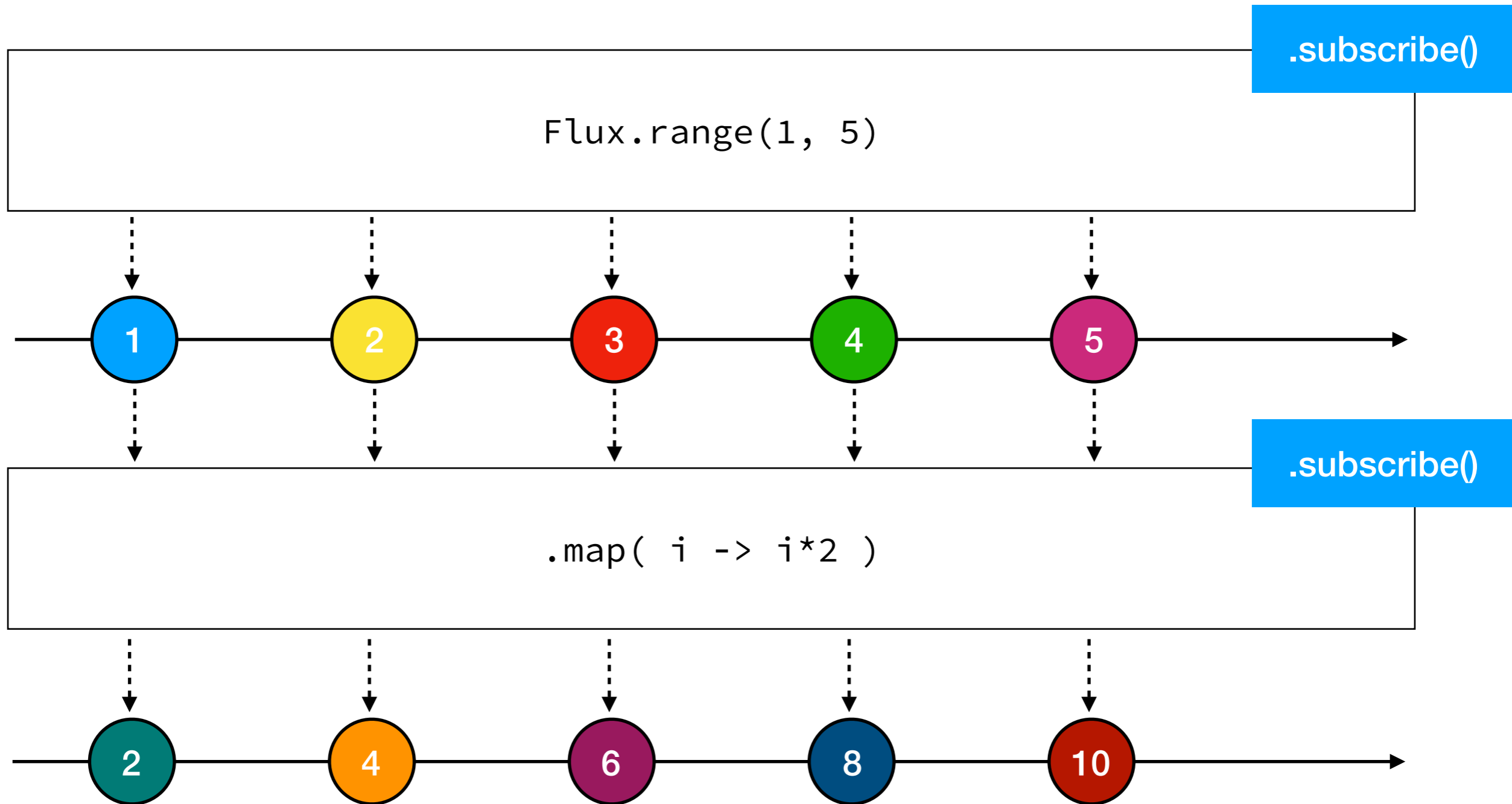




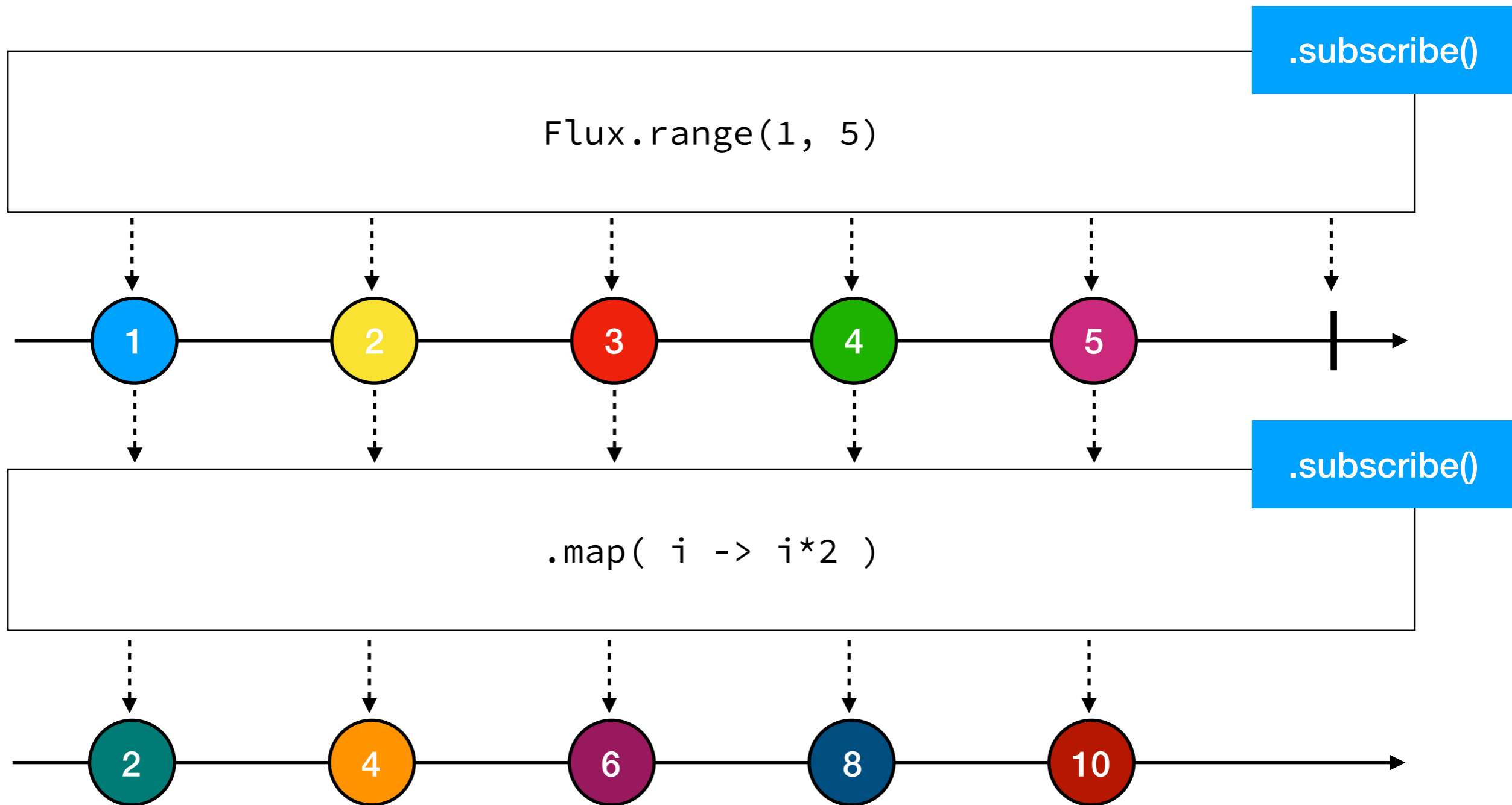
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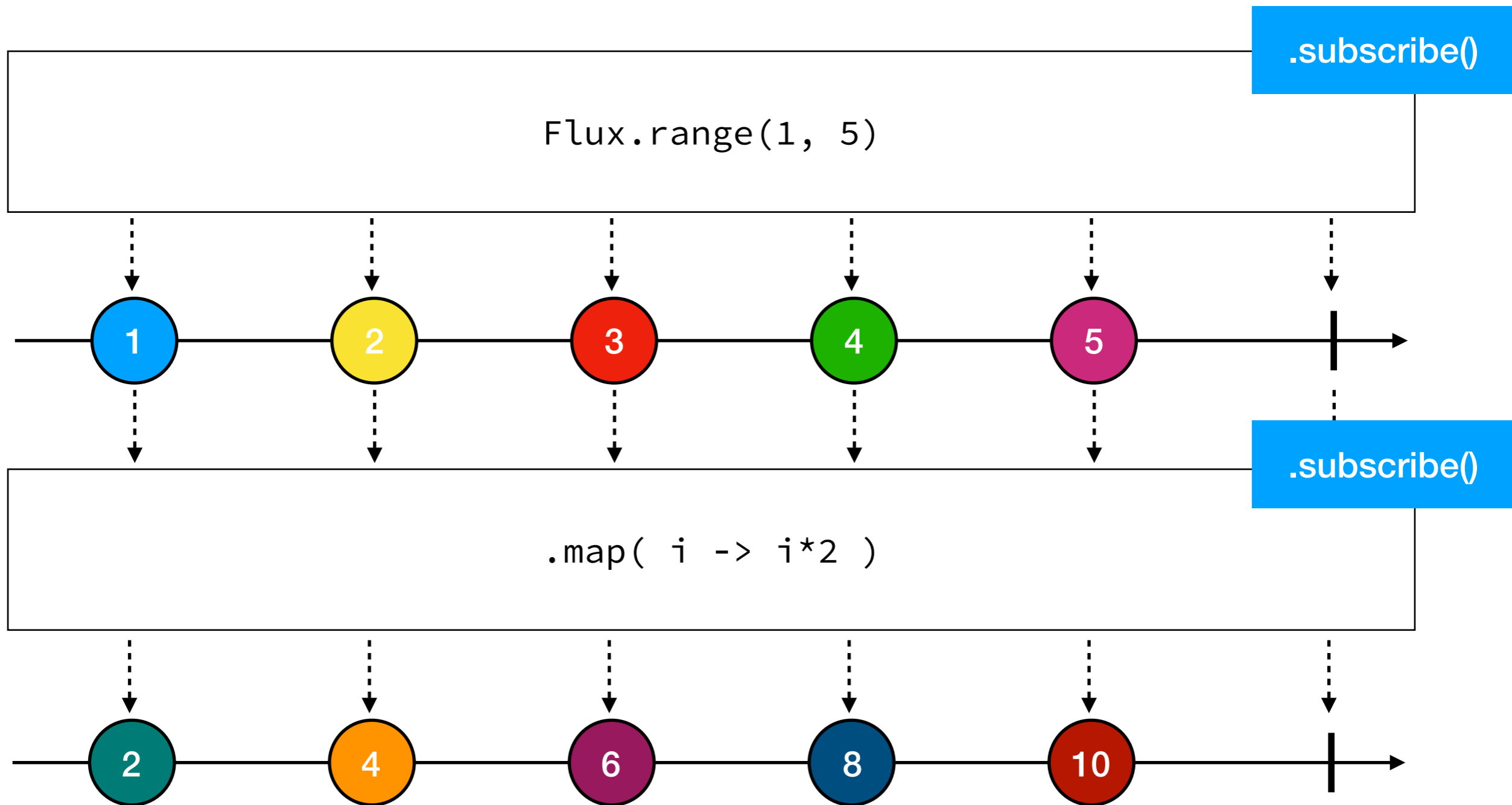
# map



# map



# map



# Live Coding!

<https://github.com/nicolasbarbe/reactive-talk>

# Resources

- **Servlet vs Reactive** : <https://www.infoq.com/presentations/servlet-reactive-stack>
- **Reactor**: <https://www.youtube.com/watch?v=Cj4foJzPF80>
- **Spring 5**: <https://www.youtube.com/watch?v=TZUZgU6rsNY>
- **Resilience Library**: <https://github.com/resilience4j/resilience4j>

A close-up, slightly blurred photograph of a person's hands typing on a laptop keyboard. The laptop screen in the background shows lines of code in a dark-themed editor. To the right, a black mug with a white crown logo and the text 'KEEP CALM' is visible. A semi-transparent dark grey box is overlaid in the center of the image, containing the word 'Questions?' in white, bold, sans-serif font.

**Questions?**



# #BaselOne17

