

Swift Concurrency Part(1)

tasks, queues

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Tasks

- 특정한 작업을 수행하는 코드의 모음
- 함수, 클로저 ...
- Task 수행을 요청했을 때 그 요청에 대한 응답이 언제 발생하나?
 - **Sync**hronous
 - **Async**hronous

Tasks

Synchronous Functions

Instance Method

preparingThumbnail(of:)

Returns a new thumbnail image at the specified size.

iOS 15.0+

iPadOS 15.0+

Mac Catalyst 15.0+

tvOS 15.0+

visionOS 1.0+ [Beta](#)

```
func preparingThumbnail(of size: CGSize) -> UIImage?
```

Tasks

Synchronous Functions

```
[1] let thumbnail = item.image.preparingThumbnail(of: thumbnailSize)
[2] cell.thumbnailImageView?.image = thumbnail
```

Tasks

Asynchronous Functions

Instance Method

prepareThumbnail(of:completionHandler:)

Creates a thumbnail image at the specified size asynchronously on a background thread.

iOS 15.0+

iPadOS 15.0+

Mac Catalyst 15.0+

tvOS 15.0+

visionOS 1.0+ [Beta](#)

```
func prepareThumbnail(  
    of size: CGSize,  
    completionHandler: @escaping (UIImage?) -> Void  
)
```

Tasks

Synchronous Functions

```
[1] item.image.prepareThumbnail(of: thumbnailSize) { thumbnail in
    [3] DispatchQueue.main.async {
        cell.thumbnailImageView?.image = thumbnail
    }
}

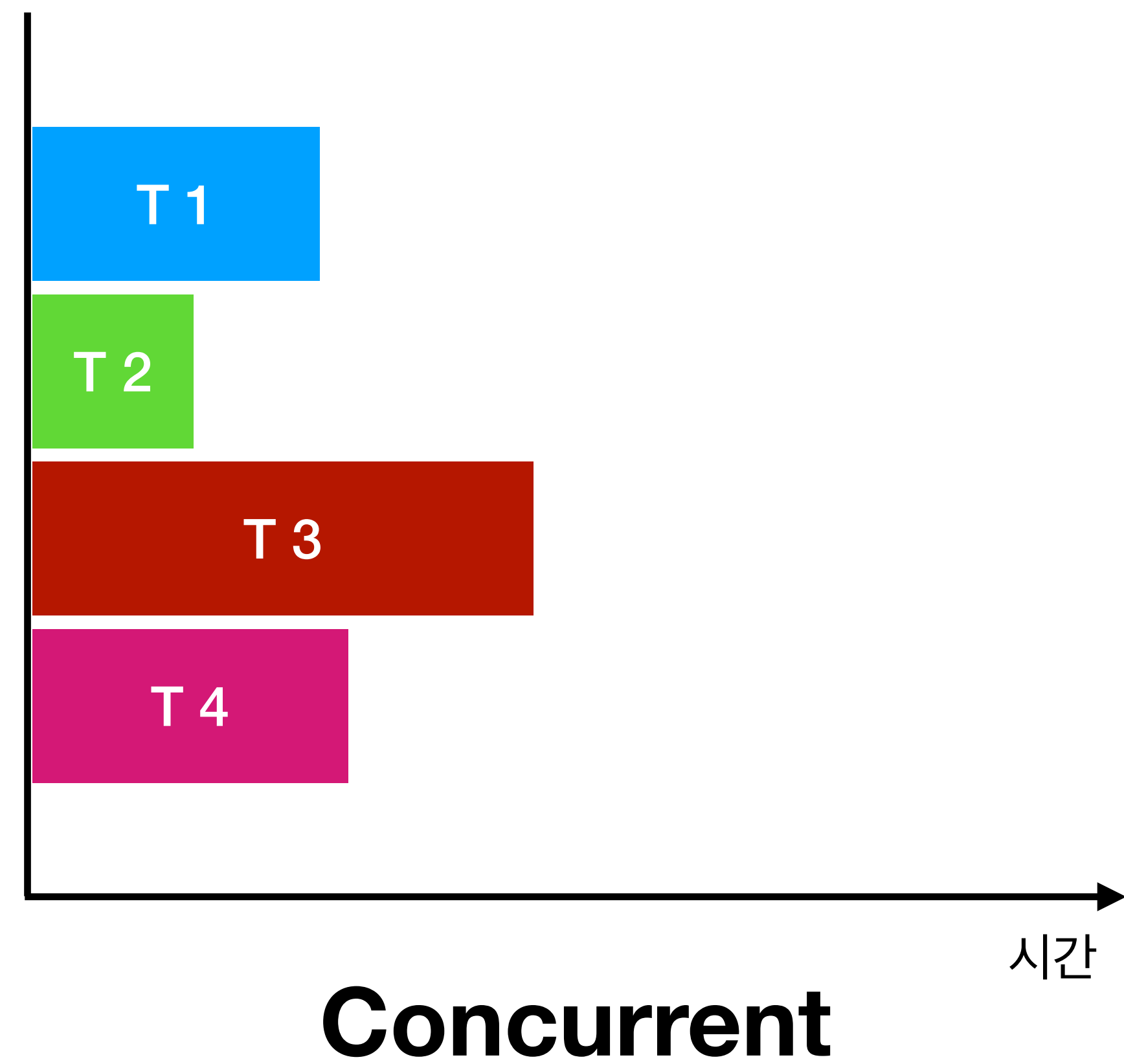
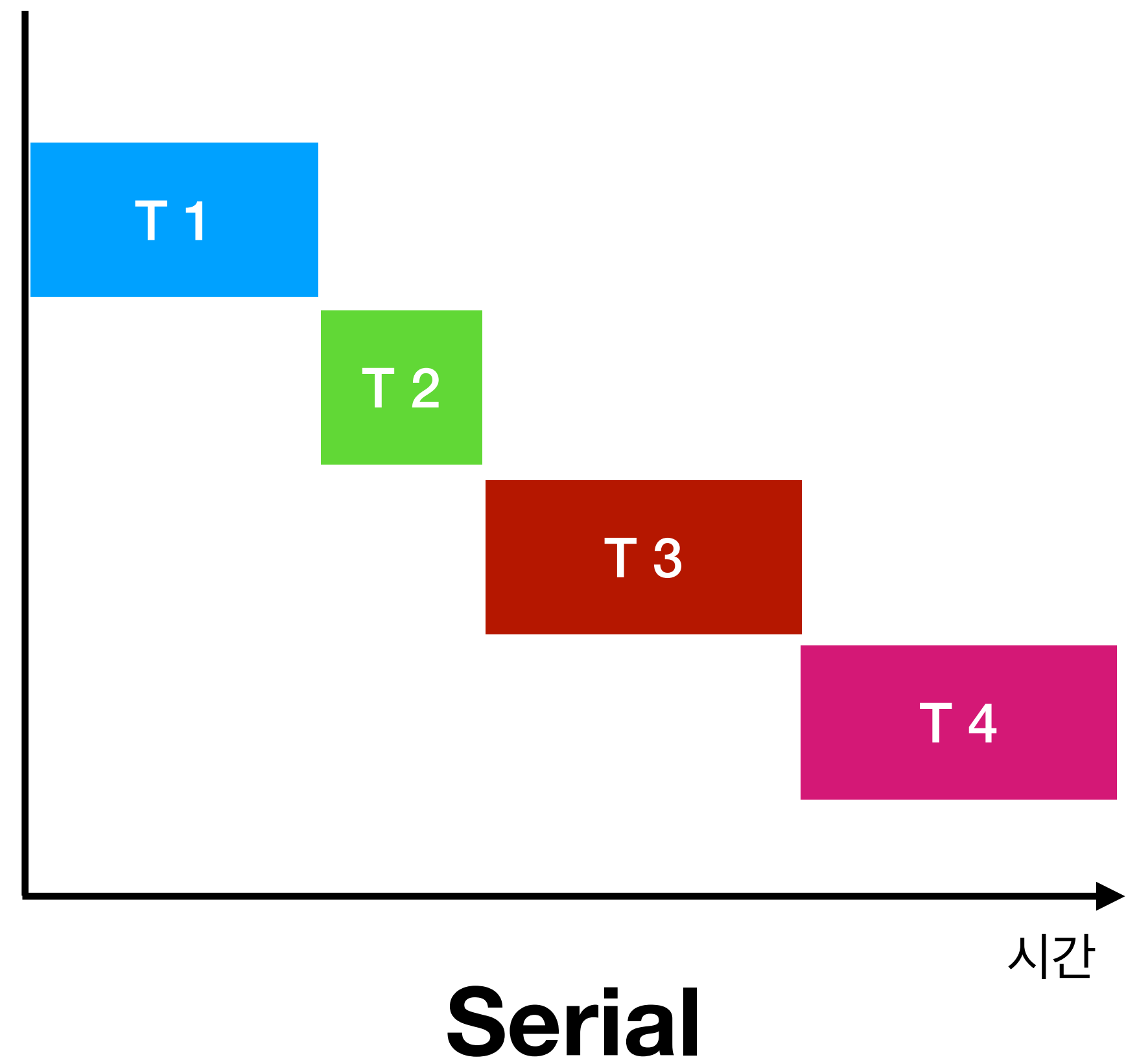
[2] return cell
```

DispatchQueue

- First In First Out (FIFO)
- 작업들이 DispatchQueue안에 줄을서고 실행이 됩니다.
- 앱에서는 여러개의 DispatchQueue들이 존재하고, 이 큐들이 번갈아가면서 자신이 가지고 있는 작업들을 실행합니다.
- 줄 서있는 작업들을 어떤 방식으로 실행하나?
 - **Serial**
 - **Concurrent**

DispatchQueue

Serial vs Concurrent



More Details in ...

- [WWDC 21] Meet async / await in Swift (0:00 ~ 6:00)

References

- [WWDC 21] Meet async / await in Swift
- [Documentation] preparingThumbnail(Sync)
- [Documentation] preparingThumbnail(Async)
- [Documentation] Closures