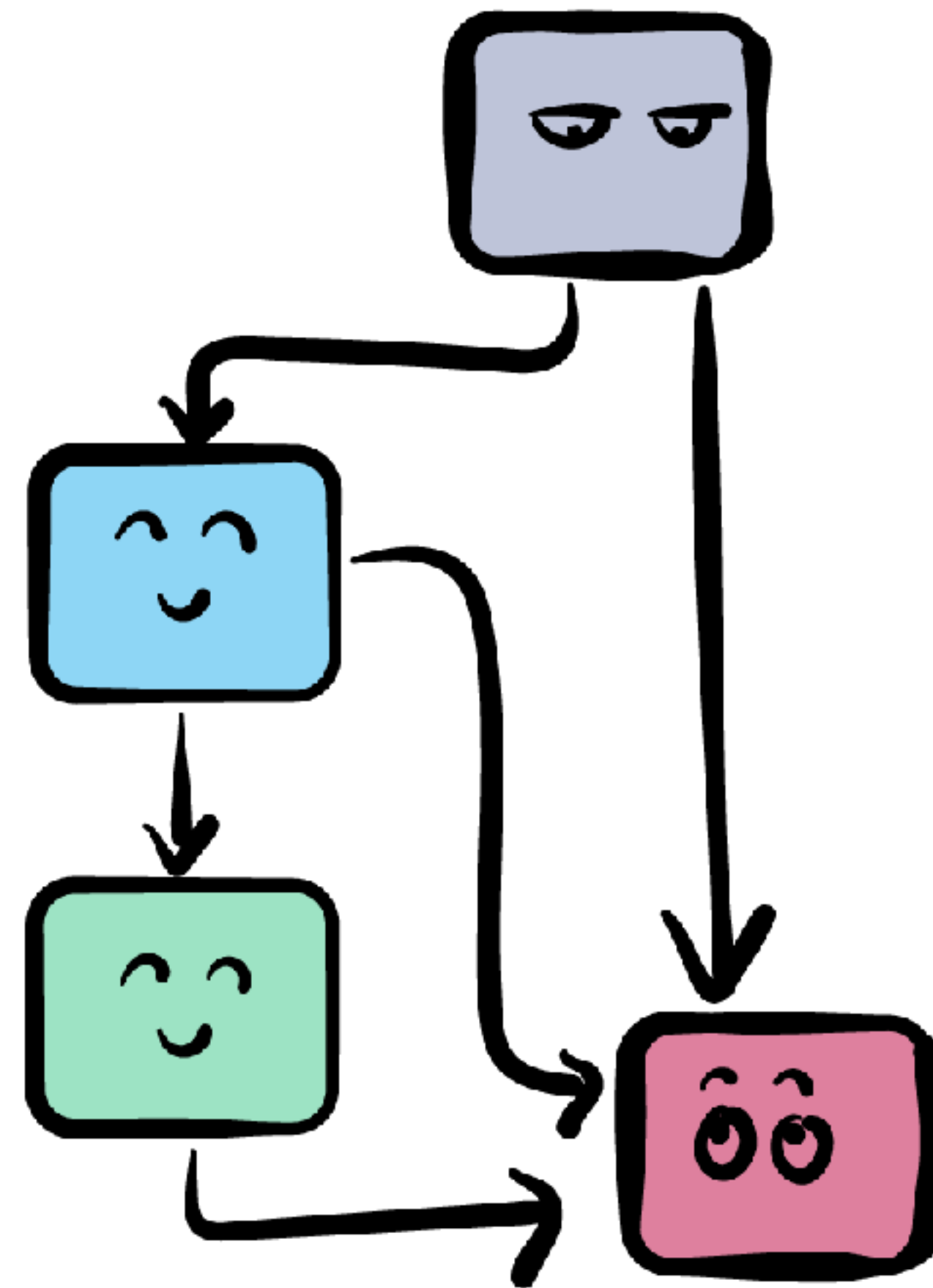


# »»» iOS ««« CONCURRENCY ..... WITH GCD & OPERATIONS

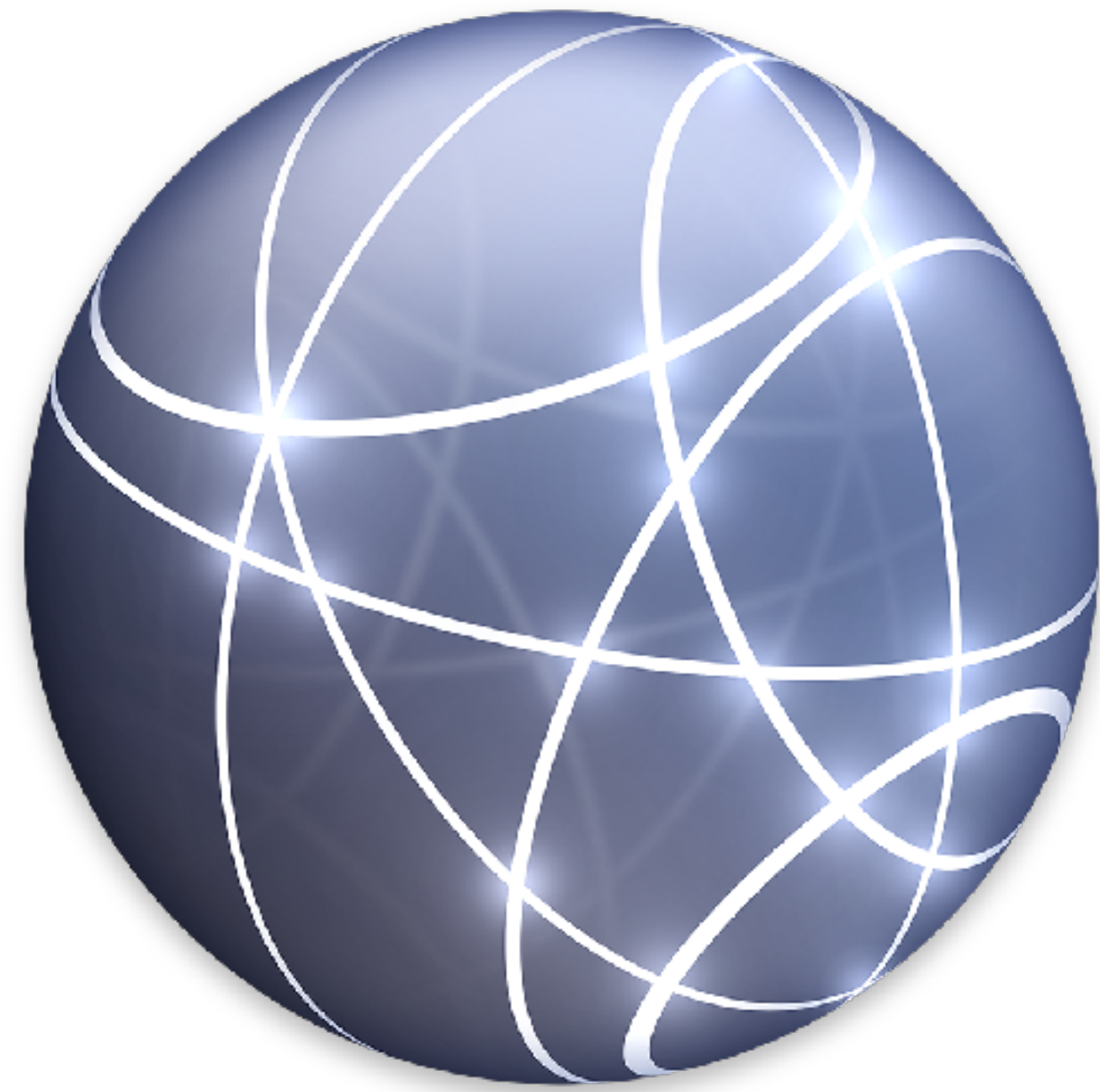


## PART 7: ASYNCOPTION

# NETWORKING OPERATION

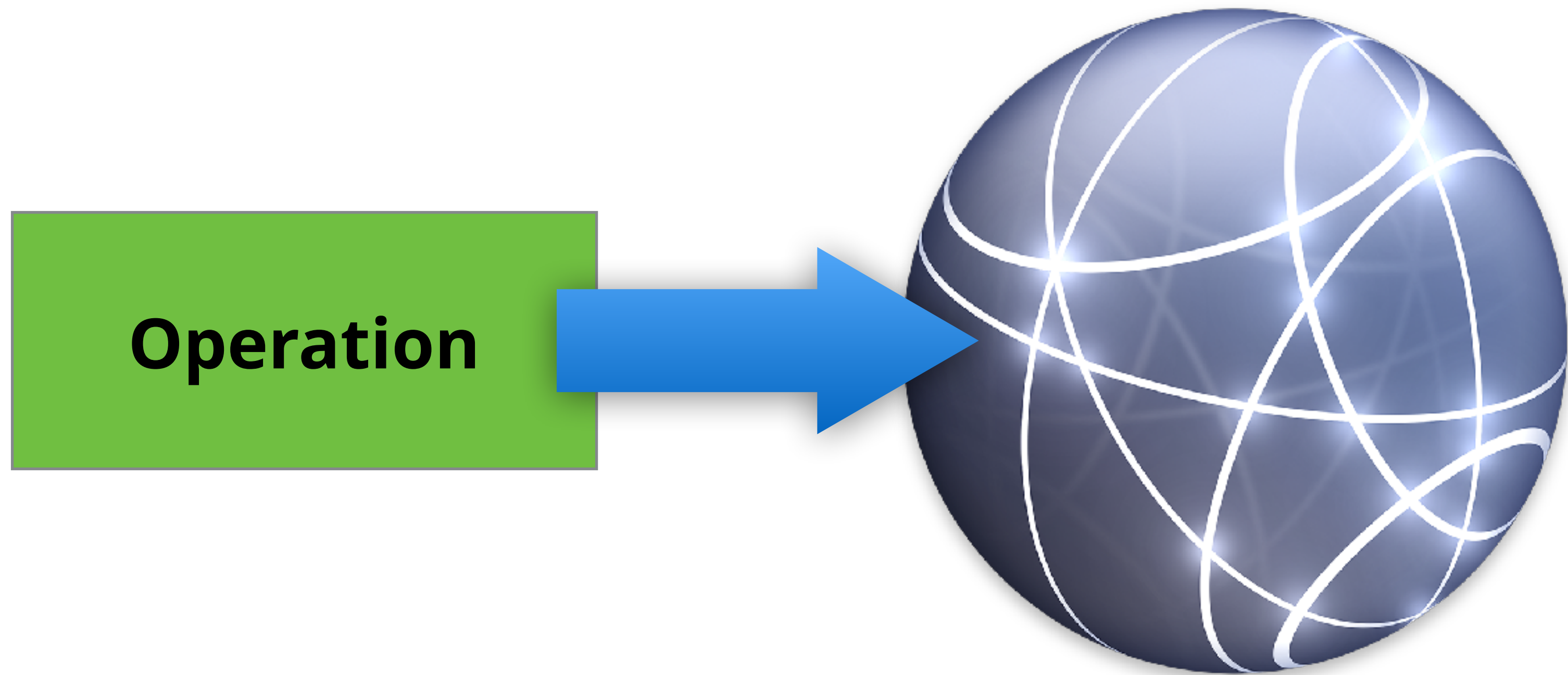
---

**Operation**



# NETWORKING OPERATION

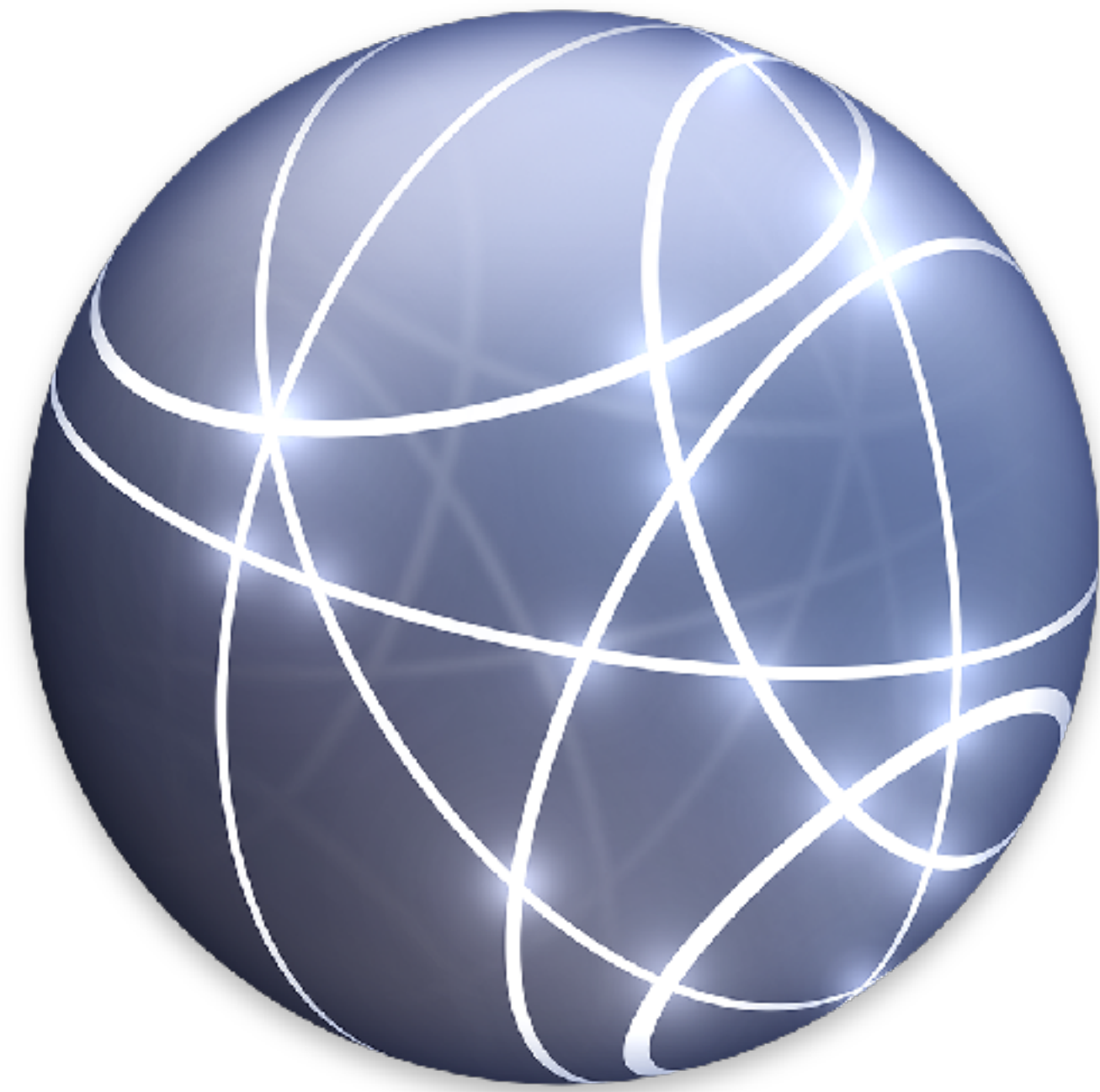
---



# NETWORKING OPERATION

---

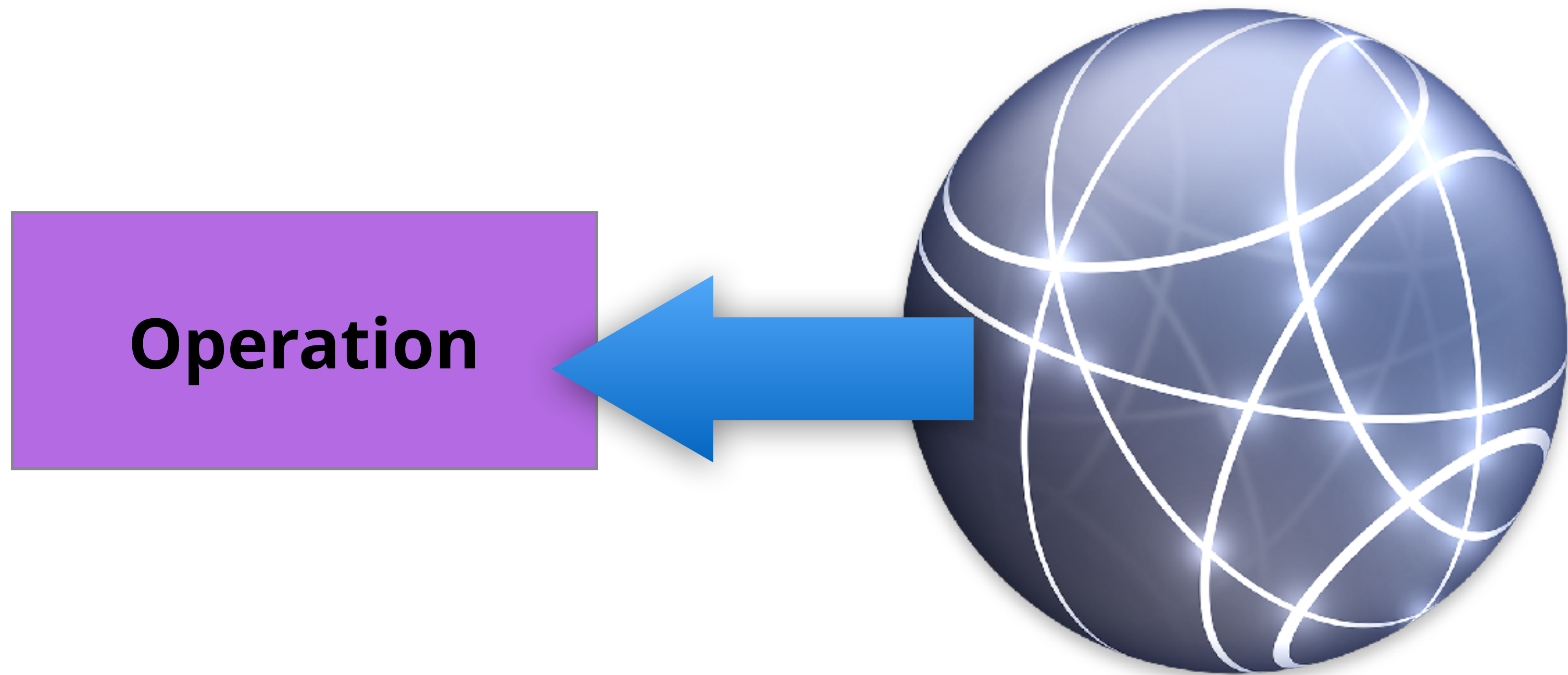
**Operation**





# NETWORKING OPERATION

---



# ASYNCHRONOUS OPERATION

---

```
open class Operation : NSObject {  
    open func start()  
  
    open var isAsynchronous: Bool { get }  
  
    open var isReady: Bool { get }  
    open var isExecuting: Bool { get }  
    open var isFinished: Bool { get }  
    ...  
}
```



# ASYNCHRONOUS OPERATION

---

## Operation

```
isReady      = false  
isExecuting  = false  
isFinished   = false
```



# ASYNCHRONOUS OPERATION

---

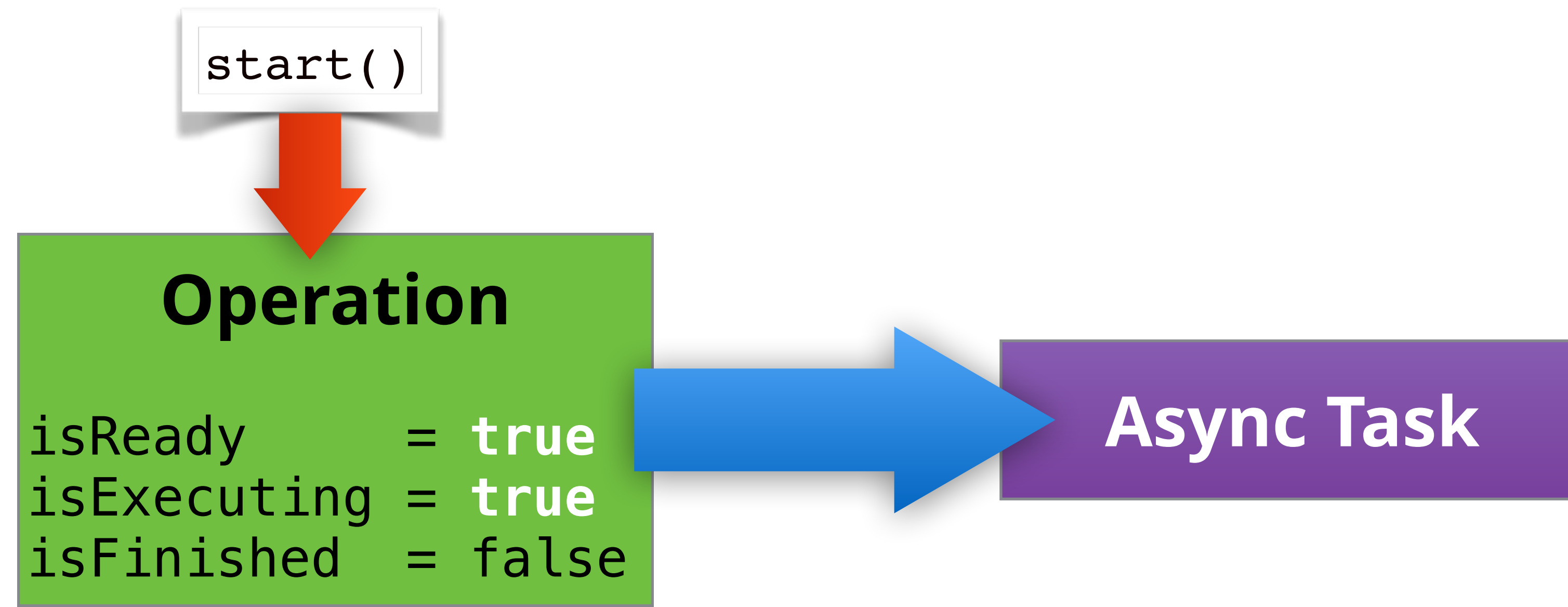
## Operation

```
isReady      = true  
isExecuting  = false  
isFinished   = false
```



# ASYNCHRONOUS OPERATION

---



# ASYNCHRONOUS OPERATION

---

## Operation

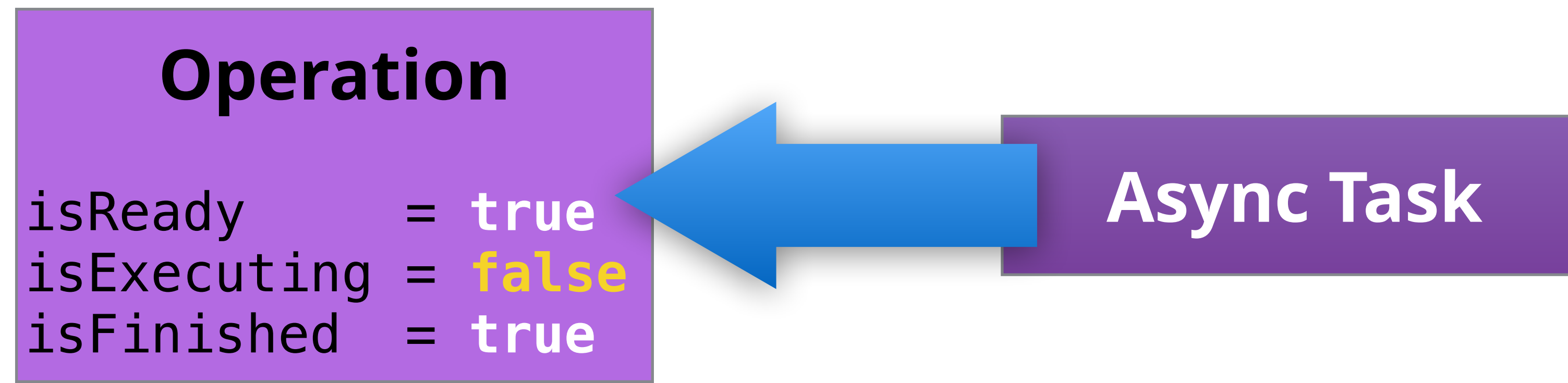
```
isReady      = true  
isExecuting  = true  
isFinished   = false
```

Async Task



# ASYNCHRONOUS OPERATION

---



# KVO NOTIFICATIONS

---

```
var state = State.Ready {  
    willSet {  
        willChangeValueForKey(newValue.keyPath)  
        willChangeValueForKey(state.keyPath)  
    }  
    didSet {  
        didChangeValueForKey(oldValue.keyPath)  
        didChangeValueForKey(state.keyPath)  
    }  
}
```



# CHALLENGE TIME!

---

```
open fun simulateAsyncNetworkLoadImage(named: String?,
    callback: @escaping (UIImage?) -> ()) {

    OperationQueue().addOperation {
        let image = simulateNetworkLoadImage(named: named)
        callback(image)
    }
}
```

