Основы Swift

Контроль доступа

Уровни доступа

- Open
- Public
- Internal
- File-private
- Private

Установка доступа

```
public func publicFunction()
internal let InternalVariable = ""
fileprivate class FilePrivateClass {}
private func privateFunction() {}
```

Установка доступа

```
class InternalClass {                                // internal класс
    var internalProperty = ""                        // internal
                                                     // свойство
    private var privateProperty = ""
                                                     // private
                                                     // свойство
    fileprivate func filePrivateMethod() {}
                                                     // file-private
                                                     // метод
}
```

Установка доступа

```
public class PublicClass {           // public класс
    var internalProperty = ""        // internal
                                     // свойство
    private var privateProperty = ""
                                     // private
                                     // свойство
    public func publicMethod() {}
                                     // public метод
}
```

Функции

```
private func someFucntion() ->
(PublicClass, PrivateClass) {
    return (PublicClass(), PrivateClass())
}
```

Перечисления

```
fileprivate enum Elements {
    case fire
    case water
    case air
    case earth
}
```

Наследование

```
public class AClass {
    fileprivate func someMethod() {}
}

internal class BClass: AClass {
    override internal func someMethod() {}
}
```

Константы, переменные для типа

```
private class PrivateClass {
    var privateVar: Int?
    public var notPublic: Int?      // private доступ
}
private var privateClass = PrivateClass()
```

Сеттеры и геттеры

```
struct Logger {
    private(set) var accessCounter = 0

    mutating public func readLog() {
        accessCounter += 1
    }
}

var logger = Logger()
// logger.accessCounter = 5
// Сеттер не доступен

logger.readLog()
logger.readLog()
print (logger.accessCounter)                    // 2
```

Private геттер

```
struct PrivateLogger {
    private private(set) var accessCounter = 0

    mutating public func readLog() {
        accessCounter += 1
}
}

var privateLogger = PrivateLogger()

privateLogger.readLog()
privateLogger.readLog()

// print (privateLogger.accessCounter)
// Нет доступа к геттеру
// error: 'accessCounter' is inaccessible
// due to 'private' protection level
```

Протоколы

```
fileprivate protocol SomeProtocol {
    var fileprivateVar: Int {get}
    func fileprivateFunc()
}
```

Extensions

```
private class PrivateClass {
    var privateVar: Int?
    public var notPublic: Int?      // private доступ
}

public extension PrivateClass {
    // extension of prive class
    // cannot be declared public
}
```

Доступ к Private из Extension

```
struct SomeStruct {
    private var privateVariable = 0
}

extension SomeStruct {
    mutating func privateAccess() {
        privateVariable += 1
        print("Private variable value:
        \(privateVariable)")                    // 1

    }
}

var someStruct = SomeStruct()

someStruct.privateAccess()
// Private variable value: 1
```