Основы Swift

Операторы

Типы операторов

infix operator operator name: precedence group

prefix operator operator name

postfix operator operator name

Определение оператора

```
struct RGBColor {
    var red = 0.0
    var green = 0.0
    var blue = 0.0
}

extension RGBColor {
    static func + (left: RGBColor, right: RGBColor) ->
    RGBColor {
        return RGBColor(red: left.red + right.red, green:
        left.green + right.green, blue: left.blue +
        right.blue)
    }
}

let blue = RGBColor(red: 0.0, green: 0.0, blue: 1.0)
let red = RGBColor(red: 1.0, green: 0.0, blue: 0.0)
let purple = blue + red
print(purple.red, purple.green, purple.blue)
// 1.0 0.0 1.0
```

Операторы для поддержки протоколов

```
struct RGBColor {
    var red = 0.0
    var green = 0.0
    var blue = 0.0
}

extension RGBColor: Equatable {
    static func == (left: RGBColor,
    right: RGBColor) -> Bool {
        return left.red == right.red &&
        left.green == right.green &&
        left.blue == right.blue
    }
}
```

```
let blue = RGBColor(red: 0.0, green:
0.0, blue: 1.0)
let secondBlue = RGBColor(red: 0.0,
green: 0.0, blue: 1.0)
let red = RGBColor(red: 1.0, green:
0.0, blue: 0.0)

print(blue == secondBlue ? "equal" :
"not equal")
// equal
print(blue == red ? "equal" : "not
equal")
// not equal
```

Определение собственного оператора

```
infix operator **: MultiplicationPrecedence

extension Double {
    static func ** (left: Double, right: Double) ->
    Double {
        return pow(left, right)
    }
}

print(5 ** 5)
// 3125.0
```

Определение precedence group

```
precedencegroup precedence group name {
    higherThan: lower group names
    lowerThan: higher group names
    associativity: associativity
    assignment: assignment
}
```

```
precedencegroup PowerPrecedence {
    higherThan : AdditionPrecedence
    lowerThan : MultiplicationPrecedence
    associativity : right
}
```

associativity

associativity : left

7 - 2 + 3 = 8 Вычисляется как ((7 - 2) + 3) = 8

associativity : right

7 - 2 + 3 = 2 Вычисляется как (7 - (2 + 3)) = 2

associativity : none

5 < 3 < 2 // Ошибка

assignment

assignment : true

foo?.bar += 2 эквивалентно foo?(.bar += 2)

assignment : false

foo?.bar += 2 эквивалентно (foo?.bar) += 2