Swift

- Development began July, 2010

- Announced on June 2, 2014

- Took ideas from:
  - ✓ Objective-C
  - ✓ Rust
  - ✓ Haskell
  - ✓ Ruby
  - ✓ Python
  - ✓ C#
  - ✓ CLU

Stack Overflow Developer Survey
Most Loved Programming Language
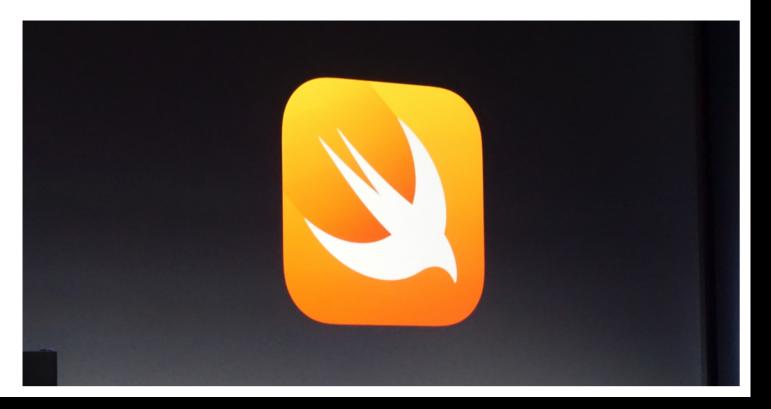
2015: 1st

2016: 2nd

Open Source

For students, learning Swift has been a great introduction to modern programming concepts and best practices. And because it is now open, their Swift skills will be able to be applied to an even broader range of platforms, from mobile devices to the desktop to the cloud.

💥

Google

Google is said to be considering Swift as a 'first class' language for Android

by **NATE SWANNER** — 11 weeks ago in **DESIGN & DEV**

iOS

tvOS

macOS

watchOS

"Oh.. Jimmy, he's so smart. He's a computer scientist"

Mom

Values

```
6    // String
7    "Bran"
8
9    // Int
10   5
11
12   // Bool
13   true
14
15   // Array
16   ["Eggs", "Bread", "Milk"]
17
18   // Dictionary
19   ["Earth": 1, "Mars": 2, "Jupiter": 67]
```

Creating Variables

```
27   var starkChild = "Bran"
28
29   var favNumber = 5
30
31   var isHungry = true
32
33   var shoppingList = ["Eggs", "Bread", "Milk"]
34
35   var planetMoons = ["Earth": 1, "Mars": 2, "Jupiter": 67]
```

```
27   var starkChild = "Bran"
```

Declaration	var starkChild: String
Declared In	VariablesAndStuff.playground

```
31   var isHungry = true
```

```
29   var favNumber = 5
```

Declaration	var favNumber: Int
Declared In	VariablesAndStuff.playground

```
31   var isHungry = true
32
```

Declaration	var isHungry: Bool
Declared In	VariablesAndStuff.playground

```
33   var shoppingList = ["Eggs", "Bread", "Milk"]
```

Declaration   var shoppingList: [String]

Declared In   VariablesAndStuff.playground

```
35   var planetMoons = ["Earth": 1, "Mars": 2, "Jupiter": 67]
```

Declaration   var planetMoons: [String : Int]

Declared In   VariablesAndStuff.playground

```
var momsFavSon: String
```

What is the type?

What is the value of this variable?

What the hell is var?

Can we do anything with it?

How great is vanilla ice-cream?

Safe!

`47` `print(momsFavSon)` ⛔ Variable 'momsFavSon' used before being initialized

Assigning a Value

```
48   momsFavSon = "Jim"
49
50   print(momsFavSon)
51   // prints "Jim"
```
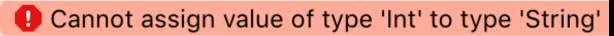
Can we change the value of this variable?

Is it mutable?

We can change the value to another String

```
54   momsFavSon = "Michael"
55
56   print(momsFavSon)
57   // prints "Michael"
```

Cannot change the value to anything that's NOT a String

```
60   momsFavSon = 22       ❗ Cannot assign value of type 'Int' to type 'String'
```

"My favorite son will always be Jimmy and that will never change!"

How do we represent this in code?

Constants

```
let mommasFavSon = "Jimmy"
```

🛑 Cannot assign to value: 'mommasFavSon' is a 'let' constant

Fix-it   Change 'let' to 'var' to make it mutable

64

65   `mommasFavSon = "Michael"`

66   🛑 Cannot assign to value: 'mommasFavSon' is a 'let' constant

```
69    let fullName = "Jim Campagno"
70    var lovesBeets = false
71    var address = "The Moon"
72    var height = 100
73    let rainbow = ["Red", "Orange", "Yellow", "Green", "Blue", "Indigo", "Violet"]
74    var moonsAndStuff = ["Earth": 1, "Mars": 2, "Jupiter": 67]
```

Functions

```
78  func sayHelloToTheClass() {
79
80      print("Hello iOS people.")
81
82  }
83
84  sayHelloToTheClass()
85  // prints "Hello iOS people."
```

Functions with arguments

```
91  func greetPerson(person: String) {
92
93      let greeting = "Hello " + person + "!"
94      print(greeting)
95  }
96
97  greetPerson("Maryann")
98  // prints "Hello Maryann!"
```

Functions with a return type

```
101  func goAway(person: String) -> String {
102
103      let unGreet = "Go away \(person)!!"
104      return unGreet
105
106  }
107
108  let badPerson = "Martha"
109
110  let greetingForBadPerson = goAway(badPerson)
111
112  print(greetingForBadPerson)
113  // prints "Go away Martha!!"
```

```swift
func goAway(person: String) -> String {

    let unGreet = "Go away \(person)!!"
    return unGreet

}

let badPerson = "Martha"

let greetingForBadPerson = goAway(badPerson)

print(greetingForBadPerson)
// prints "Go away Martha!!"
```

```swift
let greetingForBadPerson = goAway(badPerson)
```

Declaration	let greetingForBadPerson: String
Declared In	VariablesAndStuff.playground

Functions with Multiple Arguments

```swift
117  func greet(mom mom: String, dad: String) -> String {
118
119      return "Hi \(mom) 💜, hi \(dad) 🕵️."
120
121  }
122
123  let momDadGreeting = greet(mom: "Maryann", dad: "James")
124
125  print(momDadGreeting)
126  // prints "Hi Maryann 💜, hi James 🕵️."
```

Methods on Strings

```
132  let favoriteWord = "Bloop Blap Blam"
133
134  favoriteWord.|
```

M	Bool hasPrefix(prefix: String)
M	Bool hasSuffix(suffix: String)
M	Void insert(newElement: Character, atIndex: Index)
M	Void insertContentsOf(newElements: S, at: Index)
V	Bool isEmpty
V	String lowercaseString
V	ContiguousArray<CodeUnit> nulTerminatedUTF8
M	Void removeAll()

```
146
147
```

String Methods

```
132  let favoriteWord = "Bloop Blap Blam"
133
134  favoriteWord.hasPrefix("Bloop")  // true
135  favoriteWord.hasSuffix("Blam")   // true
136  favoriteWord.isEmpty             // false
```