

SnapKit

without SnapKit

```
child.translatesAutoresizingMaskIntoConstraints = false
NSLayoutConstraint.activate([
    child.leadingAnchor.constraint(equalTo: parent.leadingAnchor),
    child.topAnchor.constraint(equalTo: parent.topAnchor),
    child.trailingAnchor.constraint(equalTo: parent.trailingAnchor),
    child.bottomAnchor.constraint(equalTo: parent.bottomAnchor),
])
```

with SnapKit

```
child.snp.makeConstraints { make in
    make.leading.equalToSuperview()
    make.top.equalToSuperview()
    make.trailing.equalToSuperview()
    make.bottom.equalToSuperview()
}
```

Composability Chaining

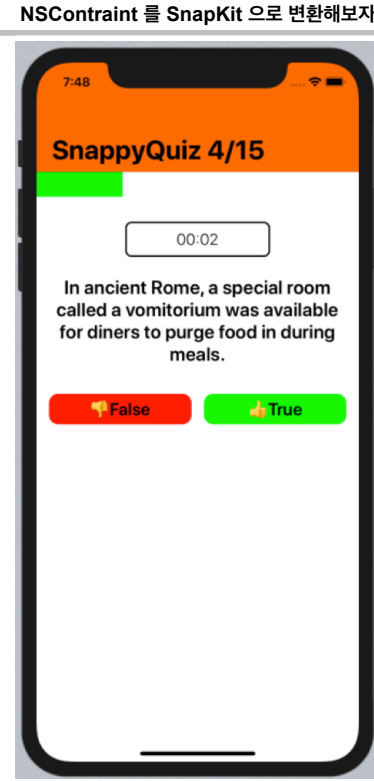
```
child.snp.makeConstraints { make in
    make.leading.top.trailing.bottom.equalToSuperview()
}
```

또는 더 간결하게

```
child.snp.makeConstraints { make in
    make.edges.equalToSuperview()
}
```

inset 16 도 chaining 에 추가하고 싶어요?

```
child.snp.makeConstraints { make in
    make.edges.equalToSuperview().inset(16)
}
```



NSConstraint 를 SnapKit 으로 변환해줘

Basic

NSConstraint

```
lblTimer.translatesAutoresizingMaskIntoConstraints = false
NSLayoutConstraint.activate([
    lblTimer.topAnchor.constraint(equalTo: view.topAnchor, multiplier: 0.45),
    lblTimer.leadingAnchor.constraint(equalTo: view.leadingAnchor, constant: 32),
    lblTimer.trailingAnchor.constraint(equalTo: view.trailingAnchor)
])

SnapKit
lblTimer.snp.makeConstraints { make in
    lblTimer.make.height.equalTo(view.safeAreaInsets.top).multipliedBy(0.45)
    make.height.equalTo(45)
    make.top.equalTo(viewProgress.snp.bottom).offset(32)
    make.centerX.equalToSuperview()
}
```

leading 16 / trailing -16을 한번에 inset 16 으로 적용 수 있다

NSConstraint

```
lblQuestion.translatesAutoresizingMaskIntoConstraints = false
NSLayoutConstraint.activate([
    lblQuestion.topAnchor.constraint(equalTo: lblTimer.bottomAnchor, constant: 16),
    lblQuestion.leadingAnchor.constraint(equalTo: view.leadingAnchor, constant: 16),
    lblQuestion.trailingAnchor.constraint(equalTo: view.trailingAnchor, constant: -16),
    view.safeAreaLayoutGuide.leadingAnchor.constraint(equalTo: lblQuestion.leadingAnchor, constant: -16)
])

SnapKit
lblQuestion.snp.makeConstraints { make in
    lblQuestion.make.height.equalTo(lblTimer.snp.bottom).offset(16)
    make.leading.trailing.equalTo(view.safeAreaLayoutGuide).inset(16)
}
```

edges 보다 간결하게

NSConstraint

```
lblMessage.translatesAutoresizingMaskIntoConstraints = false
NSLayoutConstraint.activate([
    lblMessage.topAnchor.constraint(equalTo: navView.topAnchor),
    lblMessage.bottomAnchor.constraint(equalTo: navView.bottomAnchor),
    lblMessage.leadingAnchor.constraint(equalTo: navView.leadingAnchor),
    lblMessage.trailingAnchor.constraint(equalTo: navView.trailingAnchor)
])

SnapKit
lblMessage.snp.makeConstraints { make in
    make.edges.equalToSuperview()
}
```

edges 로 간단하게

NSConstraint

```
lblMessage.translatesAutoresizingMaskIntoConstraints = false
NSLayoutConstraint.activate([
    lblMessage.topAnchor.constraint(equalTo: navView.topAnchor),
    lblMessage.bottomAnchor.constraint(equalTo: navView.bottomAnchor),
    lblMessage.leadingAnchor.constraint(equalTo: navView.leadingAnchor),
    lblMessage.trailingAnchor.constraint(equalTo: navView.trailingAnchor)
])

SnapKit
lblMessage.snp.makeConstraints { make in
    make.edges.equalToSuperview()
}
```

leading 이 없기 때문에 주문항

같은 방향이면 주문항 수 있다.

NSConstraint

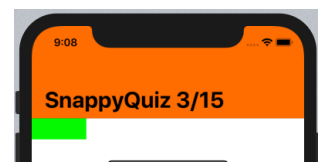
```
svButtons.translatesAutoresizingMaskIntoConstraints = false
NSLayoutConstraint.activate([
    svButtons.leadingAnchor.constraint(equalTo: lblQuestion.leadingAnchor),
    svButtons.trailingAnchor.constraint(equalTo: lblQuestion.trailingAnchor),
    svButtons.topAnchor.constraint(equalTo: lblQuestion.bottomAnchor, constant: 16),
    svButtons.heightAnchor.constraint(equalToConstant: 88)
])

SnapKit
svButtons.snp.makeConstraints { make in
    svButtons.make.height.equalTo(lblQuestion.snp.bottom).offset(16)
    make.leading.trailing.equalTo(lblQuestion)
    make.top.equalTo(lblQuestion.snp.bottom).offset(16)
    make.height.equalTo(88)
}
```

특정 상황에 Constraints 의 Constant 값을 변화시키고 싶을 때

여러분 화면 가로로 바꿀 때 Constraint 안에서 사용해보세요

```
override func willTransition(to newCollection: UITraitCollection, with coordinates:
    UIViewControllerTransitionCoordinates?) {
    super.willTransition(to newCollection, with coordinates)
    let isPortrait = UIDevice.current.orientation.isPortrait
    lblTimer.snp.updateConstraints { make in
        make.height.equalTo(isPortrait ? 45 : 60)
    }
    lblTimer.font = UIFont.systemFont(ofSize: isPortrait ? 20 : 32, weight: .light)
}
```



특정 상황에 Constraints 를 이제 다시 짓고 싶을 때

remakeConstraints 메소드

NSConstraint

```
viewProgress.translatesAutoresizingMaskIntoConstraints = false
NSLayoutConstraint.activate([
    viewProgress.topAnchor.constraint(equalTo: view.safeAreaLayoutGuide.topAnchor),
    viewProgress.heightAnchor.constraint(equalToConstant: 32),
    viewProgress.leadingAnchor.constraint(equalTo: view.leadingAnchor)
])

func remakeConstraints(to progress: Double) {
    // 기존 Constraint는 비활성화
    if let constraint = progressConstraint {
        constraint.isActive = false
    }
    // 다시 짓기
    progressConstraint = viewProgress.widthAnchor.constraint(equalTo: view.widthAnchor,
        multiplier: CGFloat(progress))
    progressConstraint.isActive = true
}
```

progress 의 width Constraint 를 dynamic 변수를 선언하고

그걸 비활성화 한 후

다시 Constraint 짓고 활성화

Quiz 가 2/15 ... 로 화면 올라갈 때 호출해준다면 되겠지

그래프에 계속 담겨

SnapKit

```
func updateProgress(to progress: Double) {
    viewProgress.remakeConstraints { make in
        make.top.equalTo(view.safeAreaLayoutGuide)
        make.width.equalTo(view).multipliedBy(progress)
        make.height.equalTo(32)
        make.leading.equalToSuperview()
    }
}
```

Constraint 식언어로

```
var topConstraint: Constraint?
lblTimer.snp.makeConstraints { make in
    // Store your constraint
    self.topConstraint = make.top.equalToSuperview().inset(16)
    make.leading.trailing.bottom.equalToSuperview()
}
```

나중에 수정할 때

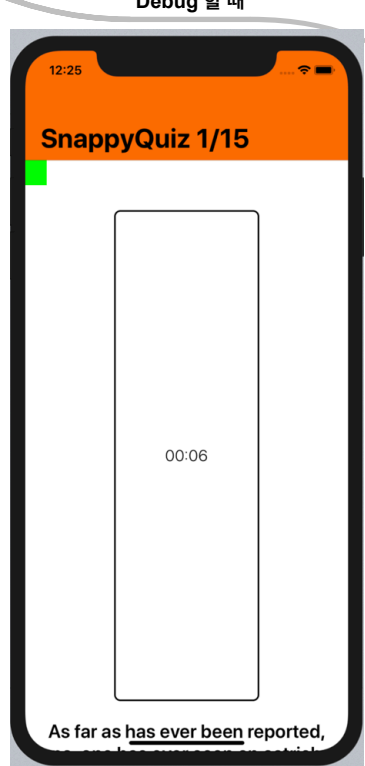
```
self.topConstraint?.update(inset: 32)
```

활성화

비활성화

```
self.topConstraint?.deactivate()
```

Constraints 값을 변수로 선언하고 싶을 때



Debug 할 때

labeled 메소드

labeled 로 debug 해줘

```
lblTimer.snp.makeConstraints { make in
    make.width.equalToSuperview().multipliedBy(0.45).labeled("lblTimer width")
    make.height.equalTo(45).labeled("lblTimer height")
    make.top.equalTo(viewProgress.snp.bottom).offset(32).labeled("lblTimer top")
    make.centerX.equalToSuperview().labeled("lblTimer centerX")
    make.centerY.equalToSuperview().labeled("lblTimer centerY")
}
```

한눈에 보기 어렵다.

레이아웃에서

```
2019-07-02 21:34:02.743688+0900 SnappyQuiz[91345:3931909] [LayoutConstraints] Unable
to simultaneously satisfy Constraints.
Probably at least one of the constraints in the following list is one you don't
want.
Try this:
(1) Look at each constraint and try to figure out which you don't expect;
(2) Find the code that added the unwanted constraint or constraints and fix
it.

<"SnapKit.LayoutConstraint:0x6000013ee800QuizViewController+Constraints
.swift#97 UILabel:0x7fe955418030.top == UILabelGuide:0x6000013ee800ec7e8.top">,
want=
<"SnapKit.LayoutConstraint:0x6000013ee800QuizViewController+Constraints
.swift#99 UILabel:0x7fe955418030.height == 32.0">,
<"SnapKit.LayoutConstraint:0x6000013f8360QuizViewController+Constraints
.swift#33 UILabel:0x7fe955418030.height == 45.0">,
<"SnapKit.LayoutConstraint:0x6000013f8360QuizViewController+Constraints
.swift#34 UILabel:0x7fe955418030.top == UILabel:0x7fe955418030.bottom +
32.0">,
<"SnapKit.LayoutConstraint:0x6000013f8360QuizViewController+Constraints
.swift#36 UILabel:0x7fe955418030.centerX == UILabel:0x7fe955418030.centerX">,
<"NSLayoutConstraint:0x6000014d3b10 'UIView-Encapsulated-Layout-Height'
UIView:0x7fe955418030.height == 750 (active)">,
<"NSLayoutConstraint:0x6000014d3c20 'UIViewSafeAreaLayoutGuide-top'
V|-(-) [UIViewGuide:0x6000014d3c20 'UIViewSafeAreaLayoutGuide'] (active,
names: |'UIView:0x7fe955418030'">
)

Will attempt to recover by breaking constraint
<SnapKit.LayoutConstraint:0x6000013f8360QuizViewController+Constraints.swift#33
UILabel:0x7fe955418030.height == 45.0>

Make a symbolic breakpoint at UIViewAlertForUnsatisfiableConstraints to catch this
in the debugger.
The methods in the NSLayoutConstraintBasedLayoutDebugging category on UIView listed in
<UIKitCore/UIView.h> may also be helpful.
```

height 는 constant 이기 때문에 lblTimer 의 centerX 위 top 이 문제가 발생할 수 있다.

레이아웃에서

```
2019-07-03 12:18:38.402967+0900 SnappyQuiz[99616:405527] [LayoutConstraints] Unable to simultaneously satisfy
constraints.
Probably at least one of the constraints in the following list is one you don't want.
Try this:
(1) Look at each constraint and try to figure out which you don't expect;
(2) Find the code that added the unwanted constraint or constraints and fix it.
(
    <"SnapKit.LayoutConstraint:0x6000013f8360QuizViewController+Constraints.swift#97
    UILabel:0x7fb4b3d07450.top == UILabelGuide:0x6000017f8548.top">,
    <"SnapKit.LayoutConstraint:0x6000013f8360QuizViewController+Constraints.swift#99
    UILabel:0x7fb4b3d07450.height == 32.0">,
    <"SnapKit.LayoutConstraint:0x6000013f8360QuizViewController+Constraints.swift#36
    UILabel:0x7fb4b3d07450.centerX == UILabel:0x7fb4b3d07450.centerX">,
    <"SnapKit.LayoutConstraint:0x6000013f8360QuizViewController+Constraints.swift#33
    UILabel:0x7fb4b3d07450.height == 45.0">,
    <"SnapKit.LayoutConstraint:0x6000013f8360QuizViewController+Constraints.swift#34
    UILabel:0x7fb4b3d07450.top == UILabel:0x7fb4b3d07450.bottom + 32.0">,
    <"NSLayoutConstraint:0x6000014d3c20 'UIView-Encapsulated-Layout-Height'
    UIView:0x7fb4b3d07450.height == 750 (active)">,
    <"NSLayoutConstraint:0x6000014d3c20 'UIViewSafeAreaLayoutGuide-top'
    V|-(-) [UIViewGuide:0x6000014d3c20 'UIViewSafeAreaLayoutGuide'] (active, names:
    |'UIView:0x7fb4b3d07450'">
)

Will attempt to recover by breaking constraint
<SnapKit.LayoutConstraint:0x6000013f8360QuizViewController+Constraints.swift#33
UILabel:0x7fb4b3d07450.height == 45.0>

Make a symbolic breakpoint at UIViewAlertForUnsatisfiableConstraints to catch this in the debugger.
The methods in the NSLayoutConstraintBasedLayoutDebugging category on UIView listed in
<UIKitCore/UIView.h> may also be helpful.
```