Animation
What does it mean to *animate* something?

- To bring to life
- To cause to appear as if it’s moving or changing

In the context of iOS applications, this means to modify aspects of the user interface in a special way as to produce the appearance of action.

Why would we want to animate something?

- It draws the user towards things that change
- It indicates importance at a particular moment
- It makes your app look cool, fun, or polished – which can be a differentiator
You can animate the following properties of a UIView derived object:

- **frame** – move or scale the view (relative to its superview)
- **bounds** – move the view’s contents within the view
- **center** – move the view relative to the screen
- **transform** - scale, rotate, or translate the view relative to its center point
- **alpha** - gradually change the transparency of the view
- **backgroundColor** - change the view’s background color
- **contentStretch** - change the way the view’s contents are stretched to fill the available space

Animation
The basic UIView animation method is `UIView.animate`: 

```swift
UIView.animate(
    withDuration: <duration>,
    delay: <delay>,
    options: <options>,
    animations: {
        <animation code>
    }
    completion: {
        <completion code>
    }
)
```
duration: how long in seconds to run the animation

delay: how long to wait until starting the animation

options:

- `.curveEaseInOut` begin slow, accelerate, end slow
- `.curveEaseIn` begin slow, accelerate to end
- `.curveEaseOut` begin quickly, slow to end
- `.curveLinear` even over the duration
- `.repeat` make the animation loop forever
- `.autoreverse` animate forward, then reverse

**animation code:** identifies the ending value for the selected attribute(s)

**completion code:** code to be executed at the end of the animation
Alpha Animation: Fade Out

Adjust the *alpha*:

```swift
// Starting alpha value
self.labelName.alpha = 1.0

UIView.animate(
    withDuration: 3.0,
    animations: {
        self.labelName.alpha = 0.0
    }
)
```
Adjust the *center*:

```swift
// Starting center value
self.labelName.center.x = self.view.center.x

UIView.animate(
    withDuration: 3.0,
    animations: {
        self.labelName.center.x +=
            self.view.bounds.width
    }
)
```

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**Center Animation: Slide Out to Right**
Adjust the *transform*:

```swift
UIView.animate(
    withDuration: 3.0,
    animations: {
        // 180 degree rotation
        self.labelName.transform = self.labelName.transform.transformed(by: CGAffineTransform(rotationBy: CGFloat(Double.pi)))
    }
)
```