# Control Flow

**Nathan Taylor**

SOFTWARE ENGINEER

@taylonr taylonr.com

File.read(path)

{:ok, contents}

{:error, reason}

# Branching Logic

**If**

**Cond**

**Case**

# Iterating Over Data

**Loops**

# Iterating Over Data

~~Loops~~

**Recursion**

# If/Else

Cond

# Case

# Recursion

To understand what recursion is, you must first understand recursion.

# Recursion Example: Bottles Song

# Imperative Example

```
for(var i = 100; i >= 3; i--){

    Console.WriteLine(i + " bottles of beer on the wall, " + i + "
bottles of beer. Take one down, pass it around, " + i-1 + "bottles of
beer on the wall.");

}


Console.WriteLine("2 bottles of beer on the wall, 2 bottles of beer.
Take one down, pass it around, 1 more bottle of beer on the wall.");


Console.WriteLine("1 bottle of beer on the wall, 1 bottle of beer.
Take it down, pass it around, no more bottles of beer on the wall.");
```
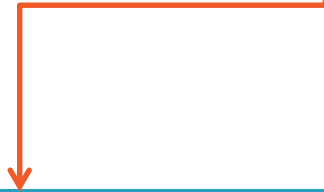
# def lyrics(first..last)

**lyrics(100..1)**
*first = 100*
*last = 1*
*get_sentence(100) <> lyrics(100-1..1)*

**lyrics(2..1)**
*first = 2*
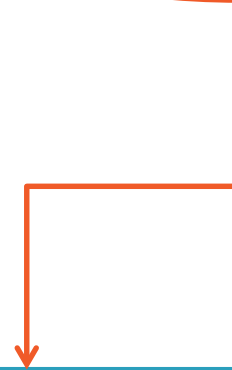*last = 1*
*get_sentence(2) <> lyrics(2-1..1)*

**lyrics(99..1)**
*first = 99*
*last = 1*
*get_sentence(99) <> lyrics(99-1..1)*

***lyrics(1..1) when first <= last***
*first = 1*
*last = 1*
*get_sentence(1)*

# Tail Recursion

Tail recursion only happens when the **last operation** a function performs is recursion

# Summary

**Ways to Handle Different Cases**
- If/Else (Unless)
- Cond
- Case

**Iteration**
- Recursion

# Coming Up
**Elixir Ecosystem**