FIBONACCI NUMBERS

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, ...

$F_0 = 0$

$F_1 = 1$

$F_2 = 1$

⋮

Mathematica

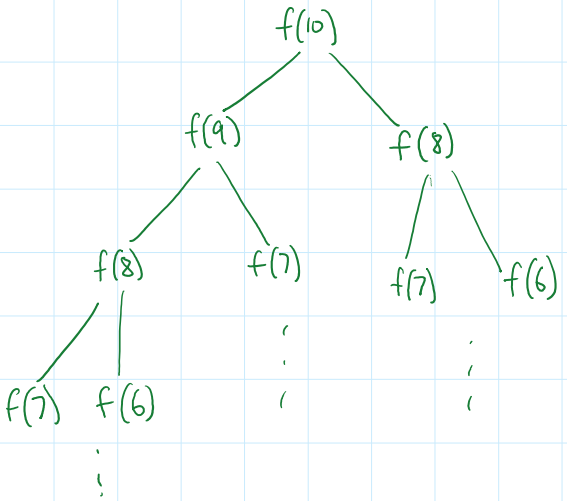
```
f[0] = 0
f[1] = 1
```

```
f[n_] := f[n-1] + f[n-2]
```

Recursive Formula

```
f[2]
⋮
```

↑ indexed variable



Iterative approach: 0, 1, 1, 2, 3, 5, 8, 13, 21, ...

Use 2 accumulators to remember the two most recent values, compute the next value

QUESTION: What is the ratio $\frac{F_n}{F_{n-1}}$ for various n?