

Snap

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Fibonacci

```
-- Type annotation (optional)
fib :: Int -> Integer

-- With self-referencing data
fib n = fibs !! n
  where fibs = 0 : scanl (+) 1 fibs
```

Fibonacci cont.

-- Same, coded directly

```
fib n = fibs !! n
  where fibs = 0 : 1 : next fibs
         next (a : t@(b:_)) = (a+b) : next t
```

-- Similar idea, using zipWith

```
fib n = fibs !! n
  where fibs = 0 : 1 : zipWith (+) fibs (tail fibs)
```

-- Using a generator function

```
fib n = fibs (0,1) !! n
  where fibs (a,b) = a : fibs (b,a+b)
```

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