Pipe

You already compose functions. Pipe lets you compose by flowing them left-to-right, improving readability. (4 min. read)

So far we've learned about HOFs, data-last functions, currying, and point-free style. What do they all tie back to?

Function Composition.

Their entire existence is to make composition easier for us. That fact becomes even more obvious when your functions perform multiple steps involving data.

Back to Bobo

Let's revisit the first exercise from our **Function Composition** section: uppercase and reverse Bobo's name. A broken-up solution would look something like this

```
const getFirstName = (user) => {...}
const uppercaseString = (string) => {...}
const reverseString = (string) => {...}

const upperAndReverseFirstName = (user) => {
  const name = getFirstName(user);
  const uppercasedName = uppercaseString(name);

  return reverseString(uppercasedName);
};
```

See how we need those intermediate variables to track the result as it goes through our function?

```
more complex === more variables
```

The more steps your function has, the more of those variables you'll need. It becomes noisy and limits how declarative your code can be.

You could try nesting them, but I think that looks worse

```
const upperAndReverseFirstName = (user) => (
  reverseString(uppercaseString(getFirstName(user)));
);
```

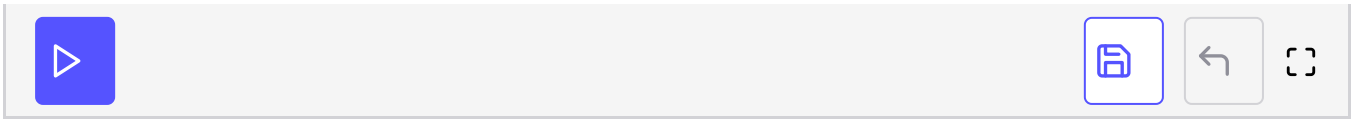
How about this?

```
import { pipe } from 'ramda';

const upperAndReverseFirstName = pipe(
  getFirstName,
  uppercaseString,
  reverseString
);

const result = upperAndReverseFirstName({
  firstName: 'Bobo'
});

console.log({ result });
```



`pipe` lets you compose functions from **left-to-right**, structuring them like a sequence of events. The leftmost function runs first, then passes its output to the next function and so on.

The result is a list that closely resembles the spec you'd write up when brainstorming a solution

1. Get the first name
2. Uppercase it
3. Reverse it

```
pipe(
  getFirstName,
  uppercaseString,
  reverseString
)
```

See the resemblance? Here's an animation of that code, with Bobo running through it.

Bobo running through the pipe

Here's another interactive example. We're transforming a number.

```
import { pipe } from 'ramda';

const doMath = pipe(
  // double
  (x) => x * 2,

  // triple
  (x) => x * 3,

  // square
  (x) => x * x,

  // increment
  (x) => x + 1
);

const result = doMath(2);

console.log({ result });
```