

Typed

Functional

Programming in

Type Script

with fp-ts

by Robin Pokorny

gcauti / f p-ts

= Types + Utils

/ io-ts

/ monocle-ts

...

Sign Up

Company *

Email *

Password *

Phone *

Yes, send me a newsletter

Sign Up

Sign Up

Company *

VeryVeryLongIdentifierOfAPrivateCompa

! Max 50 characters.

Email *

@gmail.com

! Email is not valid.

Password *

...

! Password is too short.

Phone *

📞 12345

! Invalid phone number.

Yes, send me a newsletter

Sign Up

(email: string) => { ... }

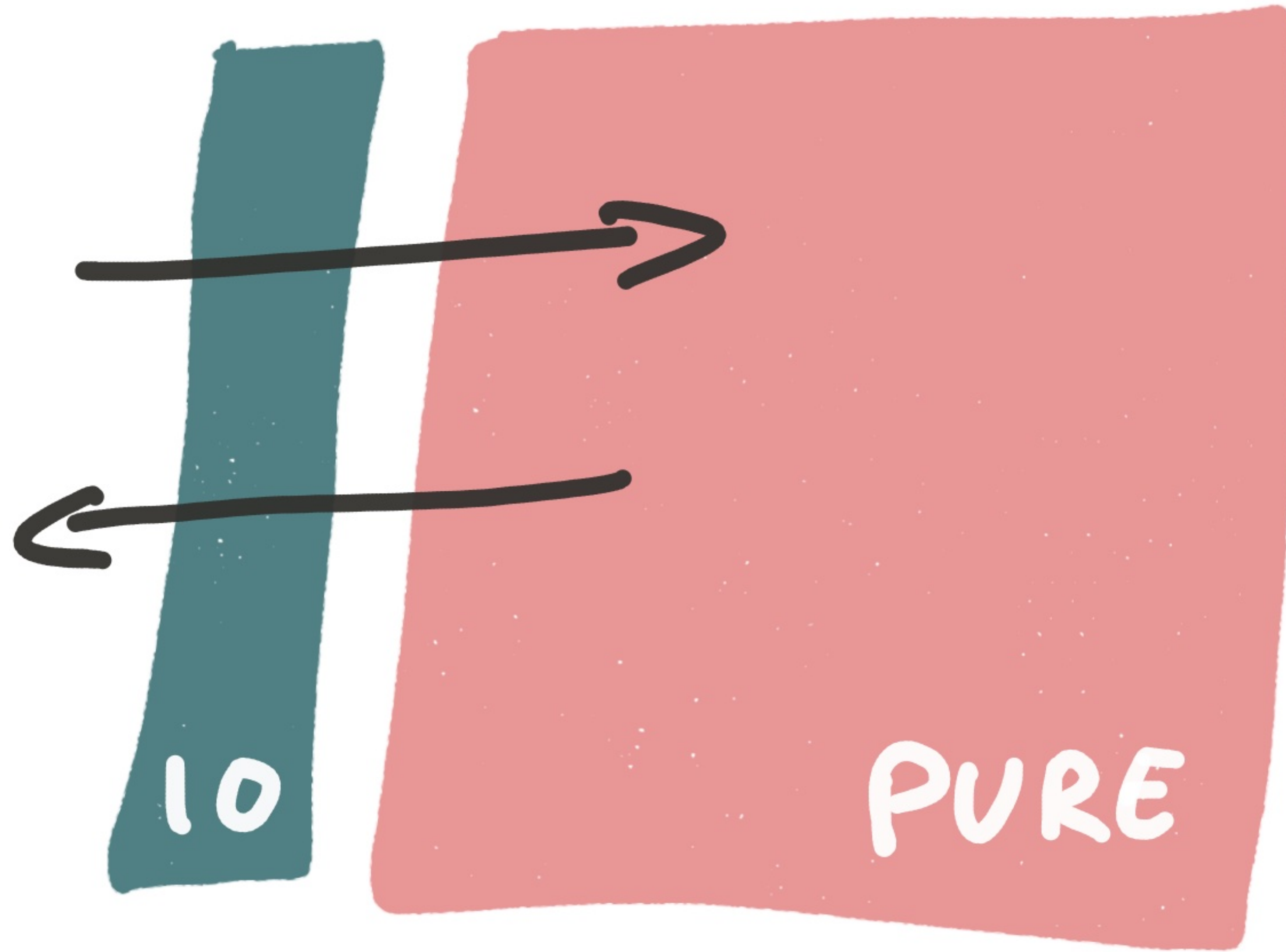
↑ not safe

(email: string) => { ... }

↑ not safe

vs

(email: SAFE Email) => { ... }



```
import * as t from 'io-ts';

const Email = t.brand(
  t.string,
  (s): s is t.Branded<string, EmailBrand> => isEmail(s),
  'Email',
);

type Email = t.TypeOf<typeof Email>;
```



```
Email.decode('')  
Email.decode('r0b1n')  
Email.decode('r@0b1n.at')  
Email.decode(2020)  
Email.decode(null)
```

Either $\langle \text{Left}, \text{Right} \rangle$

Error 

Success 

```
import * as E from 'fp-ts/lib/Either'  
  
pipe(  
  Email.decode(anything),  
  E.fold(onFail, onSuccess)  
)
```

```
const a: Email = 'r@0b1n.at'
```

```
// -> Type '"r@0b1n.at"' is not assignable to type  
      'Branded<string, Email>'.
```

- + readable (DDD)
- + checked on compile
- + just Type Script
- + browser & server

```
const SignUpForm = t.type({
  company: String50,
  email: Email,
  password: Password,
  phone: option(Phone),
  sendNewsletter: t.boolean,
});
```

```
const form = useForm(
  SignUpForm,
  initialState
);
```



Sign Up

Company *

Email *

Password *

Phone *

Yes, send me a newsletter

Sign Up



Artem Sapegin

@iamsapegin

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Reading fp-ts docs and realize again that I'll never understand functional programming.

gcanti.github.io/fp-ts/

6:29 am - 19 Nov 2019

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