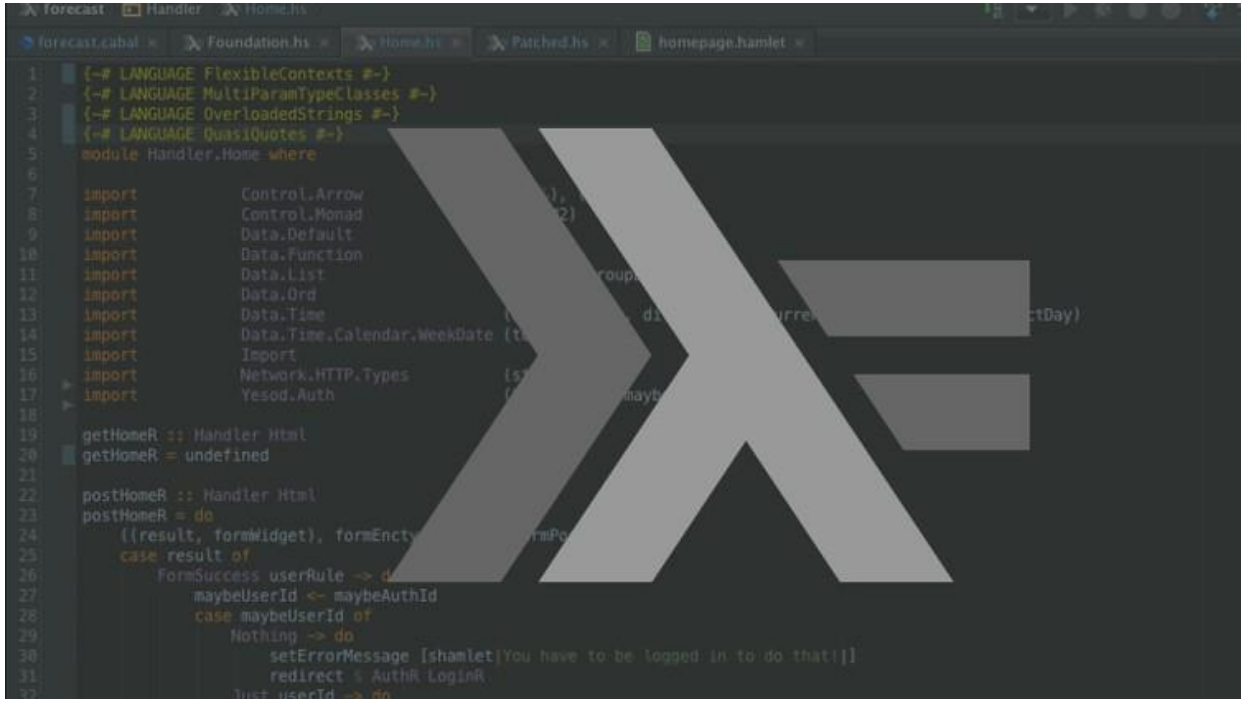
Introduction to Applicatives



Applicatives

We already know how to apply functions:

```
λ> (+3) 2                    👉  5
```

And we know how to do it on containers:

```
λ> fmap (+3) (Just 2)        👉  Just 5
```

But what if the function is in a container?

```
λ> (Just (+3)) (Just 2)      ❌
```

In this case, we can use `<*>`! (it is read *app*)

```
λ> Just (+3) <*> Just 2              👉  Just 5
λ> Just (+3) <*> Nothing             👉  Nothing
λ> Nothing <*> Just (+3)             👉  Nothing
λ> Nothing <*> Nothing               👉  Nothing

λ> Right (+3) <*> Right 2            👉  Right 5
λ> Right (+3) <*> Left "err"         👉  Left "err"
λ> Left "err" <*> Right 2            👉  Left "err"
λ> Left "err1" <*> Left "err2"       👉  Left "err1 "

λ> [(*2), (+2)] <*> [1, 2, 3]        👉  [2, 4, 6, 3, 4, 5]
```