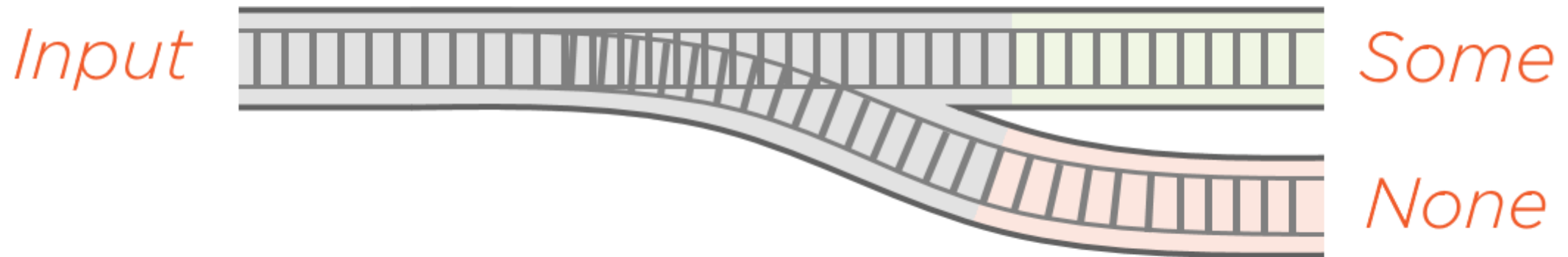# Handling Errors in Functional Style

Zoran Horvat

CEO AT CODING HELMET

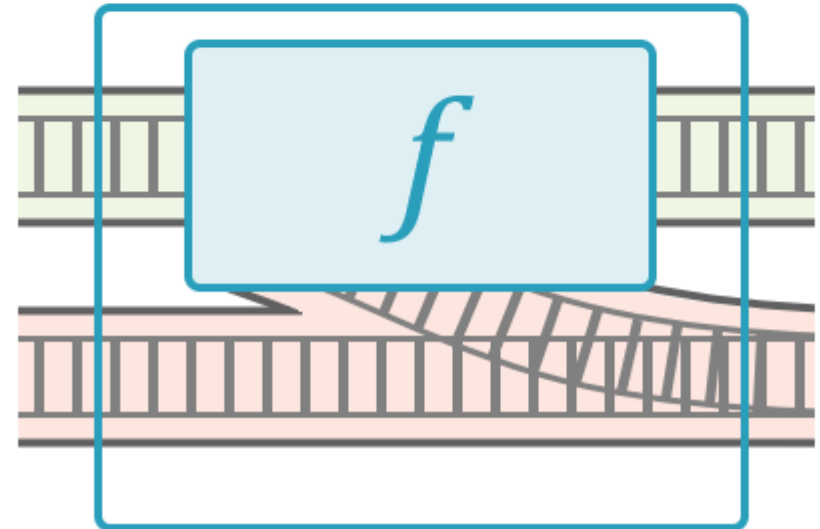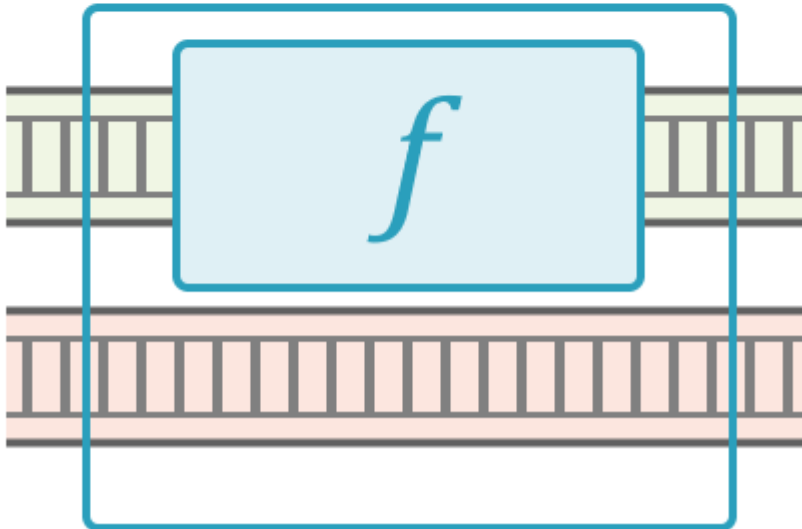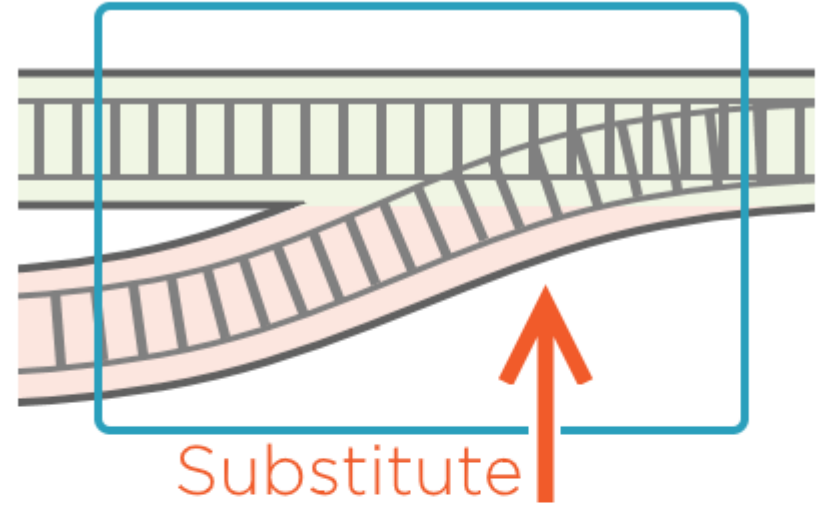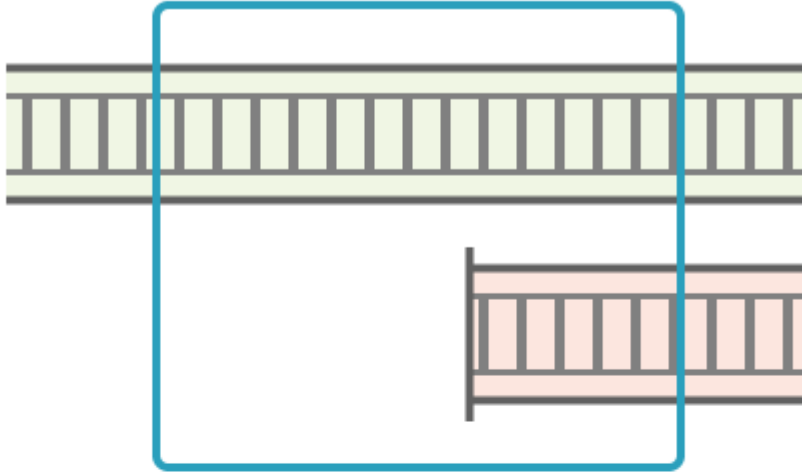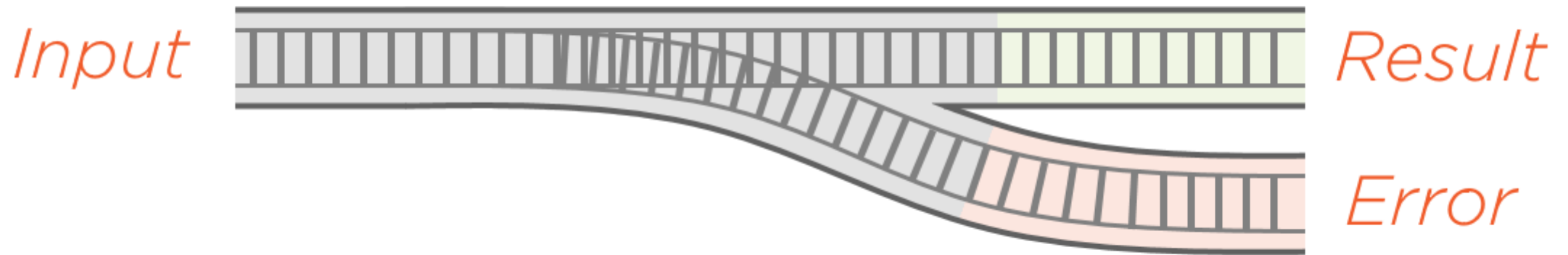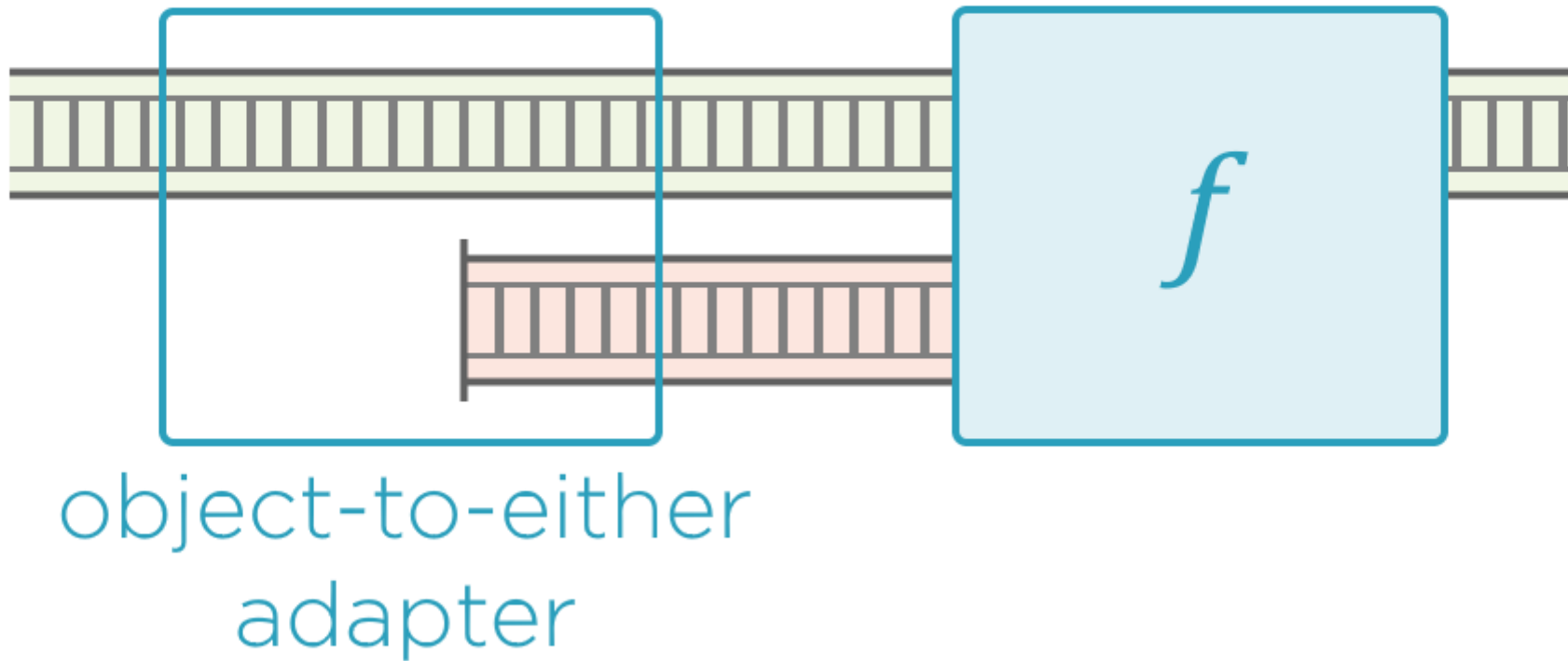@zoranh75   http://csharpmentor.com

Railway-oriented Optional Objects

Railway-oriented Optional Objects

Railway-oriented Error Handling

Input

Result

Error

Error Handling Adapters

object-to-either
adapter

Error Handling Adapters

Exception = side effect

f

Error Handling Adapters

Error Handling Adapters

either-to-function
adapter

Error Handling Adapters

either-to-function
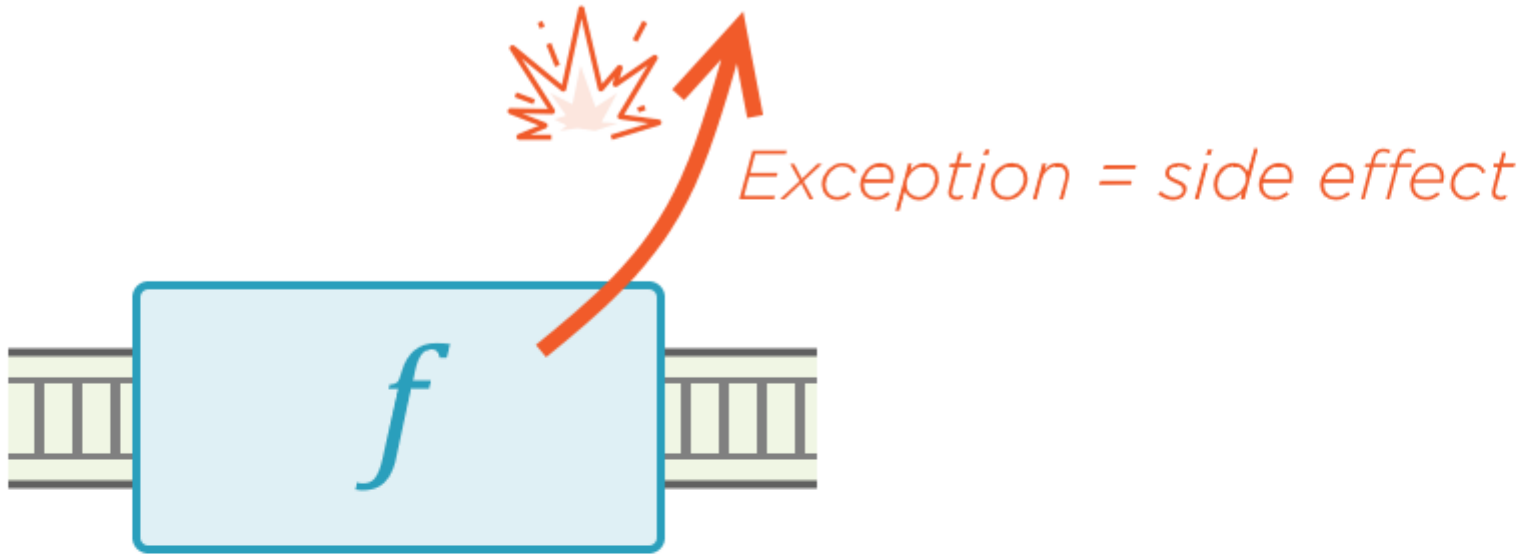adapter

Error Handling Adapters

either-to-object
adapter

f

Resolved
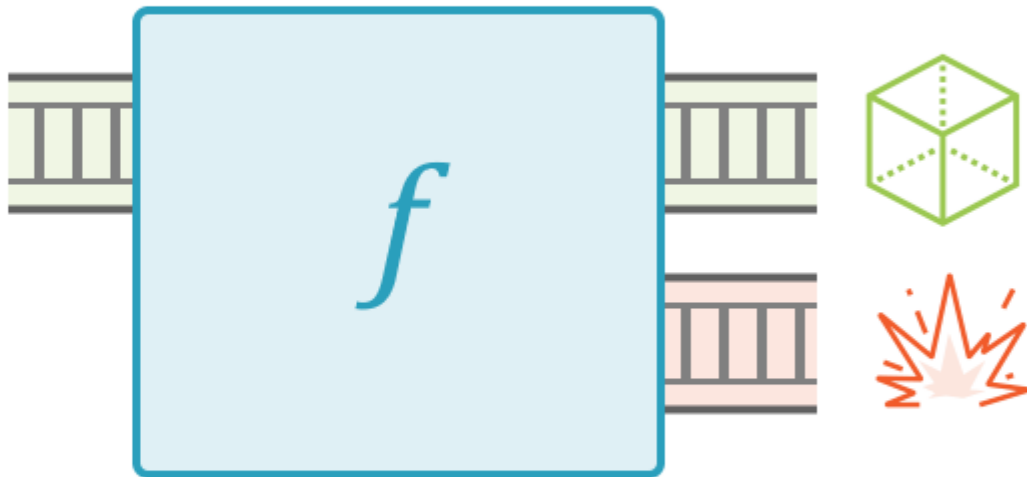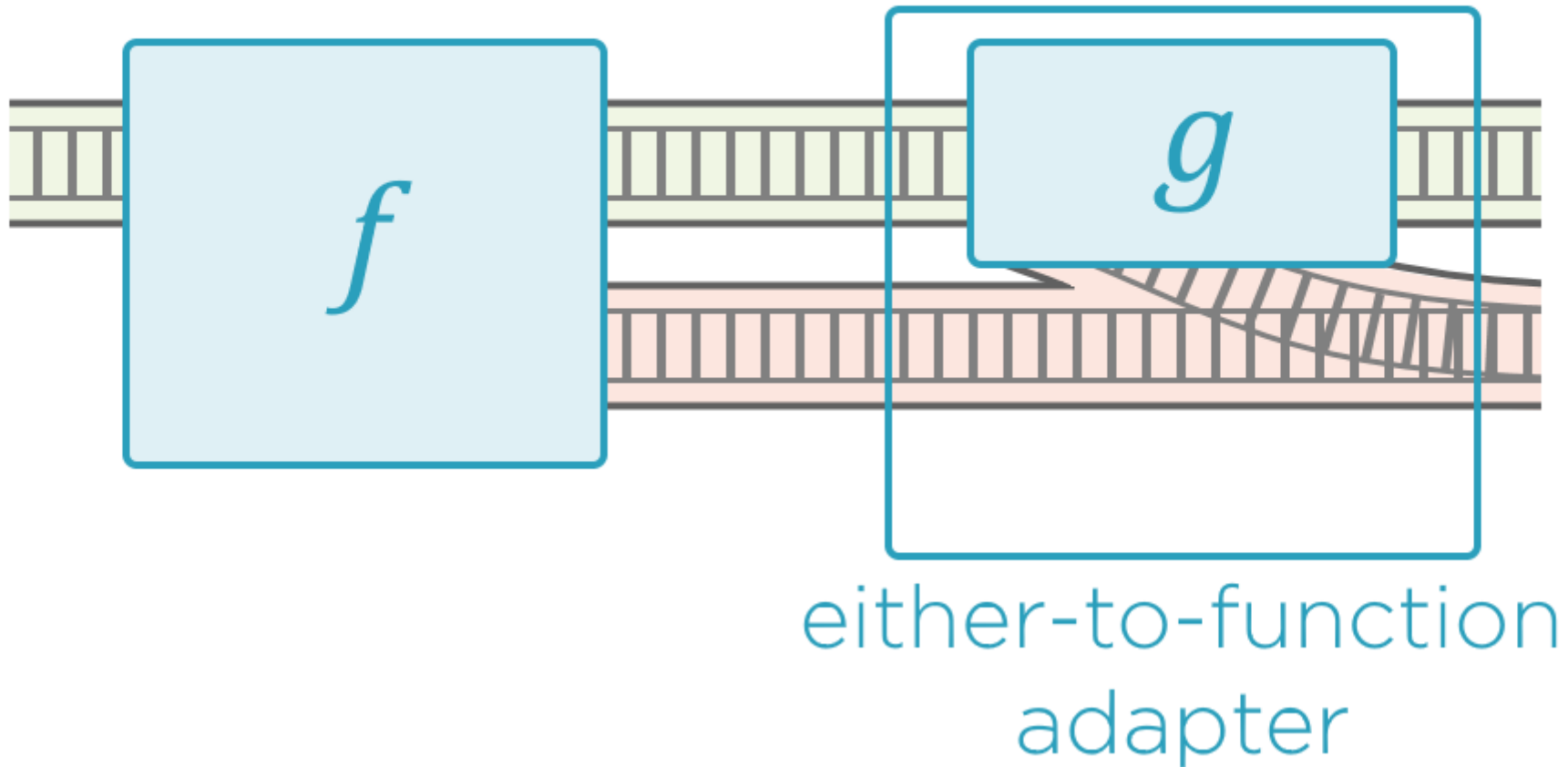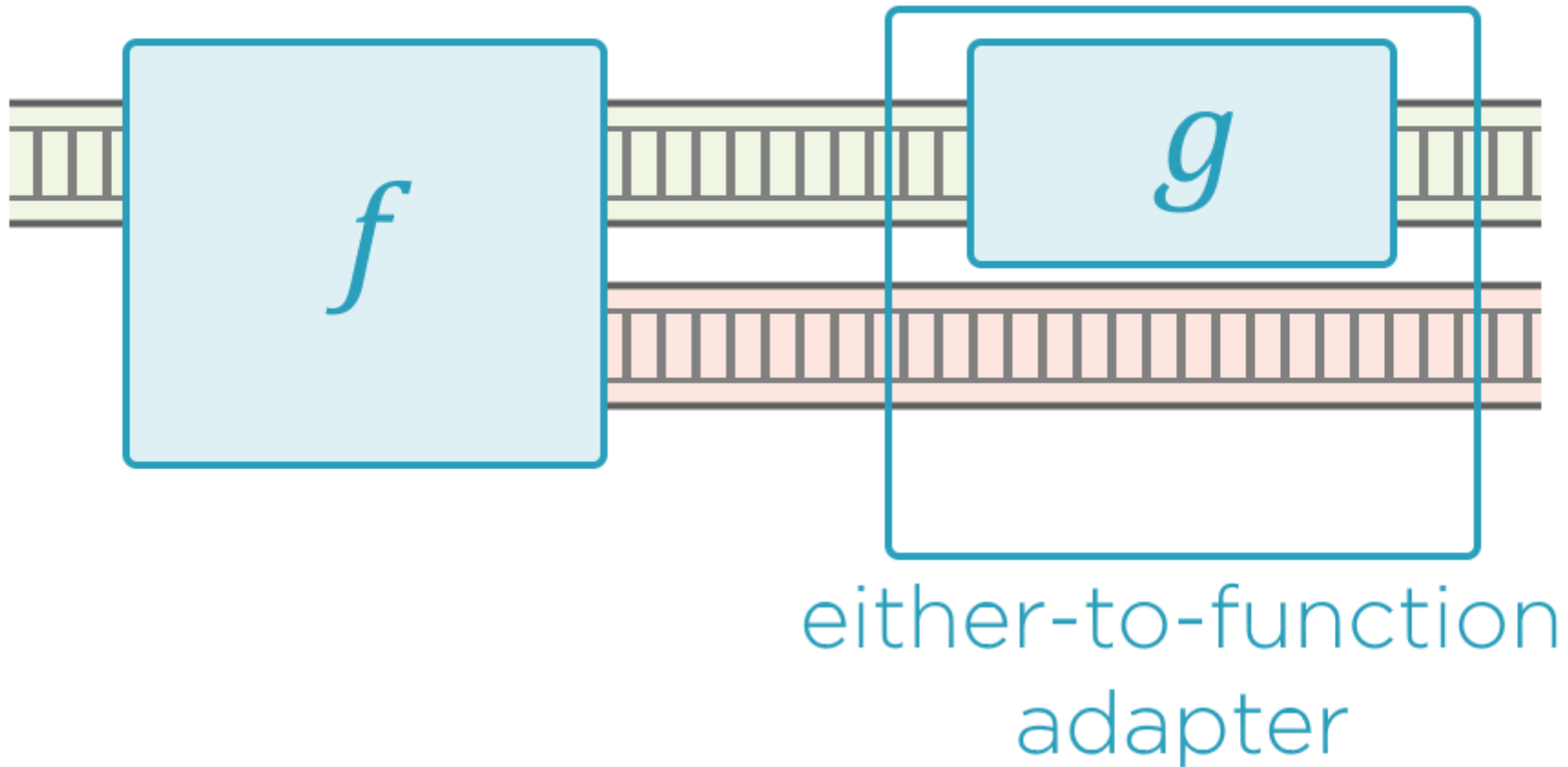error
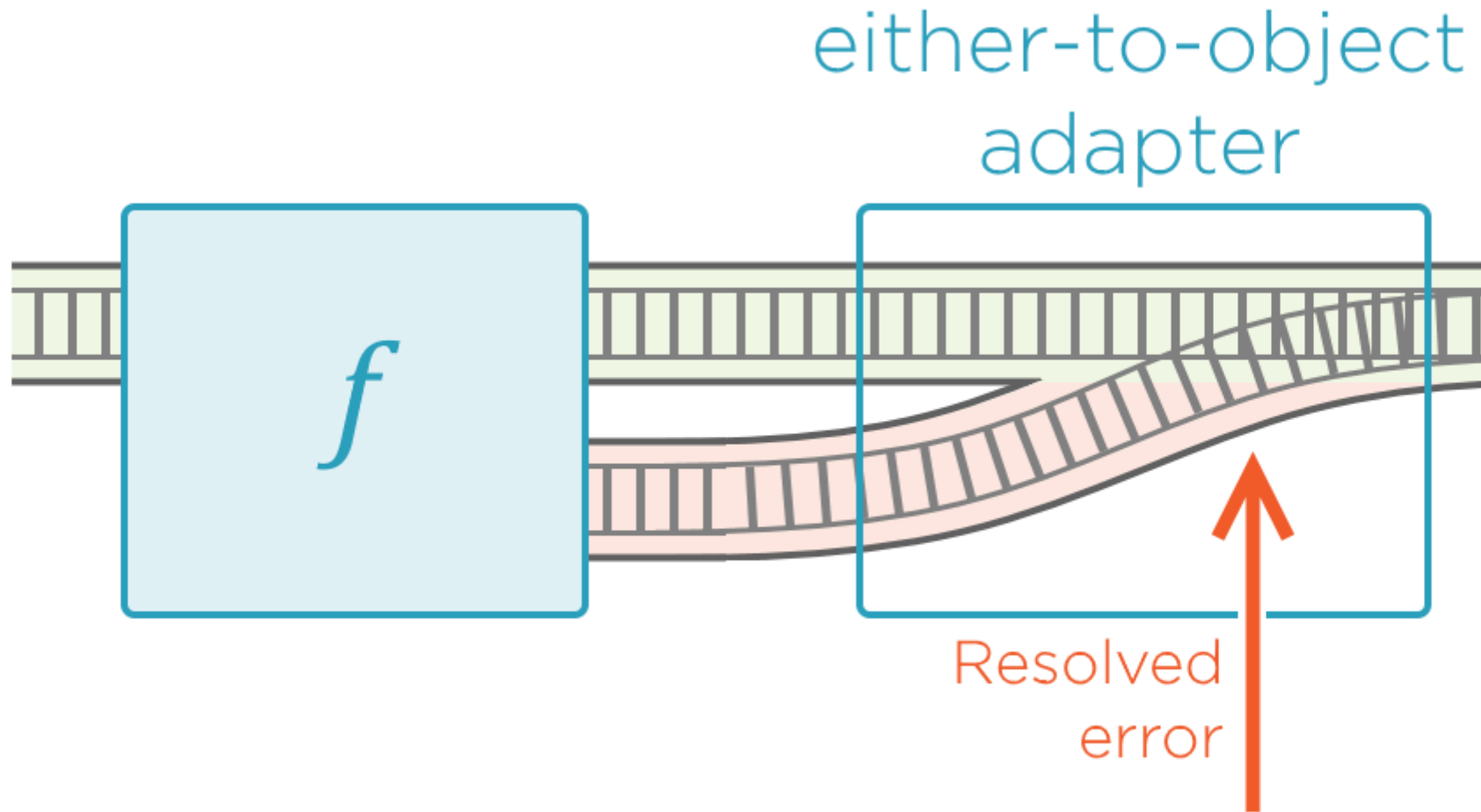
Error Handling Adapters
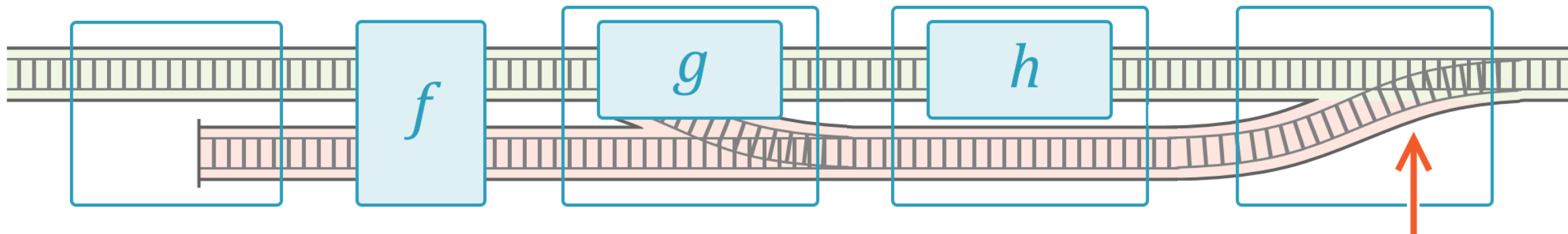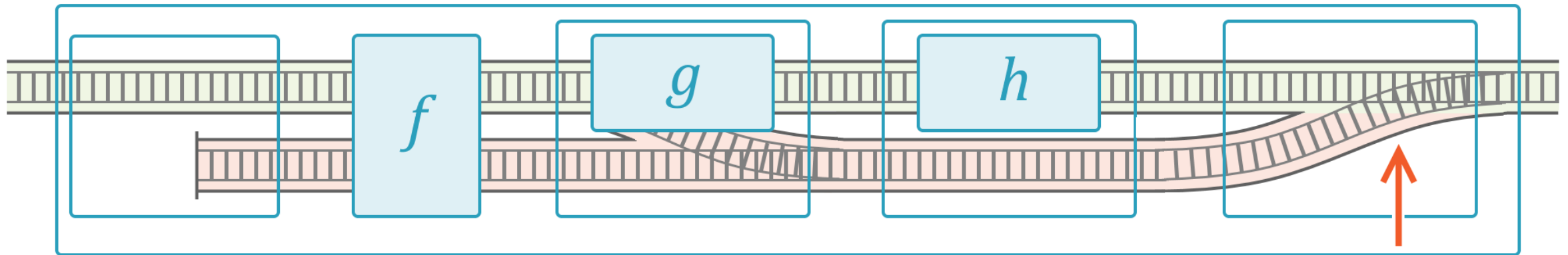
Error Handling Adapters

Error Handling Adapters

Summary

Railway-oriented programming

– Either type holds result or error

– Adapters help use functions
not aware of Either

Example

– Use Option and Either in a Web API

– All queries are functional mappings

Course Summary

In this course you have learned to:

- Recognize where OO design fails
- Use extension methods to attach functions to a set of types
- Leverage pure functions to write simple and correct code
- Apply memoization to pure functions
- Control flow with pattern matching
- Organize behavior separate from types
- Compose large functions out of smaller ones
- Unify positive and negative flow with railway-oriented programming