

# Questions & Answers

## Functional Programming 2020/2021



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# Format of the exam

## Similar to the previous exams in the web

- ▶ The exam is on Remindo
- ▶ Two types of questions
  - ▶ Open: explain something or write some code
  - ▶ Multiple choice: choose one answer
- ▶ You **cannot** bring any notes to the exam, nor can you use ghc/ghci/your favourite editor etc.
- ▶ You have to answer in English or Dutch



# Contents of the exam

## Everything until today

- ▶ Basic types: lists, tuples, numbers
- ▶ User-defined data types
- ▶ Define functions by pattern matching
- ▶ Recursion on lists and other data types
- ▶ Write functions using accumulators
- ▶ Define and use higher-order functions
- ▶ Write classes and instances
- ▶ Infer and check the type of an expression



# Contents of the exam

Do I need to know all the types by heart?

Writing and understanding type signatures is something you need to learn, and we need to test

- ▶ We expect you to know, or be able to deduce, the types of the functions:  
id,(.),const,flip,head,tail,(++),concat,foldr,foldl,map,filter,su  
and all the members of the type classes  
Show,Eq,Ord,Enum and Num.

- ▶ Some higher-order functions are **very** important

- ▶ `map` :: (a -> b) -> [a] -> [b]
- ▶ `filter` :: (a -> Bool) -> [a] -> [a]
- ▶ `foldr` :: (a -> b -> b) -> b -> [a] -> b

In most cases you can deduce their type if you know what they do

- ▶ Unless specifically stated otherwise you can use these functions without defining them in your answers



# Outcome of the exam

- ▶ You should expect your grades in about two weeks
- ▶ What happens if I fail the exam?
  - ▶ **Nothing**, your grade is the average with the final one
  - ▶ Remember,  $T = 0.3 \times \text{midterm} + 0.7 \times \text{final}$
  - ▶ **Reflect** on your mistakes and **act** to fix them



# Q&A session



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