Programming Paradigms 2025
Session 2 : First steps

Preparing for the session

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Where nothing else is mentioned, chapters and page numbers refer to *Programming in Haskell*.

The video podcast

You can watch the podcast on YouTube via the course page on Moodle.

Tuesday 16 September 2025 – First steps

The text is Chapters 1 and 2 of *Programming in Haskell*.

Learning goals for the session

The learning goals are

- To be able to explain the notion of a function in the functional programming paradigm in a precise way
- To understand the central points in the history of functional programming
- To be able to install the Glasgow Haskell compiler and use it with a simple programming environment
- To be able to write simple definitions in Haskell
- To be able to edit, load and use Haskell programs
- To understand and be able to apply simple aspects of Haskell syntax: Definitions, comments, the layout rule and where declarations in definitions.

How you should prepare before we meet on Tuesday

Before we meet, watch the podcast and read the text. You can do this in any order you like.

Also see if you can solve the following two small discussion problems using only the functions mentioned in Chapter 2 of the book. We will talk about them in class.

1. Load the program simple.hs available from the Moodle section about this session. Try to evaluate laengde myList. What do you think the result of sumtree myBigOak will be? Try to explain why, Then check your answer by asking Haskell.
2. Define a function second that will, when given a list, return the second element of the list if it exists. As examples of what this function should do, we expect that

```
second [1,4,5,6]
```

will give us 4, and that

```
second ["some,-"bizarre",-"mango'']
```

will give us "bizarre". Show that your definition of second works for these examples of arguments. Then find two more examples of arguments and see what happens. Is your function a total function?

What happens on Tuesday?

When we meet, some of you will present the solutions to the small discussion problems above. We have found volunteers the week before.

You are also supposed to solve and discuss a collection of problems that can be found on a separate page, available on the day of the session. *You are supposed to participate in these activities,* ***not*** *to sit and watch your fellow students engaging in the activites. Remember to have your computer with you. You must have GHCi installed on it.*