

Programming Paradigms 2023

Session 9 : Interactive programming

Preparing for the session

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7 November 2023

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. There are two videos, one for each topic.

Tuesday 7 November 2023 – Interactive programming

The text is

- Chapter 10 of *Programming in Haskell*.
- The note *The simply typed lambda-calculus in one page* (available from Moodle)

Learning goals for the session

- To understand the underlying idea of I/O in Haskell
- To be able to use the IO type construct in Haskell
- To be able to use sequencing with do blocks to write interactive programs
- To be able to write Haskell programs that combine the pure and impure features of Haskell

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. We will talk about them in class.

1. Write a Haskell program that asks for the name of the user and greets the user with a "Hello". We would like to see the following behaviour:

```
*Main> hello
What is your name?
Graham
Hello Graham
*Main>
```

2. Find out what the following expression does:

```
sequence_ [putStr "rip", putStr "rap", return ()]
```

and why Haskell will complain about

```
sequence_ [putStr "rip", putStr "rap", getChar]
```

Then give an explanation. (Page 135 is your friend.)

What happens on Tuesday?

When we meet, students that have been contacted by me who will present the solutions to the small discussion problems above.

Problems for Tuesday

For the plenary session we will solve and discuss a collection of problems that can be found on a separate page, available on the day of the session.