

Introduction to Programming

10th Weekly Note (E17, Week 46)

Reading for Week 46

- **Obligatory:** Sections 9.1.1–9.1.2, 9.2, 9.3.1–9.3.2 of “Introduction to Programming Using Java”
- *Supplementary:* Android training “Build Your First App”
<https://developer.android.com/training/basics/firstapp/index.html>

Lecture: Monday, November 13, 12-14 (U140)

This lecture introduces further implementations of the List ADT, including one based on the idea of recursive data structures.

Labs: see detailed schedule on course home page

- **Obligatory:** Exercise 7.2 from Chapter 7. Write a program that reads all lines of a text file into an ArrayList and then outputs them in reverse order, i.e., the last line first etc.
- *Supplementary:* Exercise 7.4 from Chapter 7. Exercise 10.4 from Chapter 10.
- Challenge: Write a turtle graphics implementation using the Swing GUI or Android U.

Exercises: see detailed schedule on course home page

- **Obligatory:** Exercises 9.1 and 9.3 from Chapter 9.
- *Supplementary:* Write a small Swing GUI or Android app that uses `java.awt.Graphics` or `android.graphics.Canvas`, respectively, to draw a geometric shapes incl. at least triangles, squares, and circles.
- Challenge: Write a small Swing GUI or Android app that takes an FDL file and draws the fractal described using your turtle library. Allow the user to use the mouse or fingers to move the position of the fractal using `MouseEvent`s or `TouchEvent`s, respectively.

Study groups

Sit down in pairs (or alone) and make sure that you have a working Android Studio incl. a working emulator. A good choice for the latter is for example a virtual Pixel with API level 26.

Then try to create a block of 3x3 quadratic views of the same size. Note what works well with your solution and what does not.

Finally, discuss your solutions in the whole group and try to come up with an idea for a solution that works well in all situations.