

Introduction to Programming

11th Weekly Note (E17, Week 47)

Reading for Week 47

- **Obligatory:** Android training “Build Your First App”
<https://developer.android.com/training/basics/firstapp/index.html>
- *Supplementary:* Section 10.4 of “Introduction to Programming Using Java”

Lecture: Monday, November 20, 12-14 (U140)

We will extend our knowledge of abstract data types to stacks and queues.

Lecture: Thursday, November 23, 14-16 (U140)

This lecture introduces abstract data types and collection classes for sets and maps based on and trees and hashing.

Labs: see detailed schedule on course home page

- **Obligatory:** Implement the Stack ADT from the lecture, i.e., supporting the operation isEmpty, peek, pop, and push. You can choose one of the following designs (or roll your own):
 - use an ArrayList as an attribute and implement your operations by calling the right operations on this ArrayList
 - use a partially full array to implement a stack of limited size
 - use a dynamic array to implement the stack
 - use a recursive data structure to implement the stack
- *Supplementary:* Implement the other designs from the obligatory exercise.
- **Challenge:** Write an Android app, a Swing GUI, or a Java FX GUI animating the Towers of Hanoi.