

# Week 11 - Collections part 2 / Working with date objects



This page is a draft, treat it accordingly,

## Topics covered in this week

- Maps
- Representation of other data structures
  - trees, queues, graphs
- Java 8 Date features

## Reading material

- <https://beginnersbook.com/java-collections-tutorials/>
- <https://www.journaldev.com/1260/collections-in-java-tutorial>
- <https://www.vogella.com/tutorials/JavaCollections/article.html>

## Homework

Difficulty	Problem	Notes
<b>HARD</b>	<p>Create a class Train containing the following attributes: train number, train type and no of wagons. Make sure to override equals() in this class.</p> <p>Create a HashMap that holds Train objects as keys and a List with days in which the trains run as values (running days should be simple integer values: 1, 2, 3 ... 365). Do the following steps:</p> <ol style="list-style-type: none"><li>1. Populate your HashMap with 10000 records (use an algorithm that randomly generates 10 000 trains and the corresponding list of running days for each of them)</li><li>2. Override hashCode() method in Train class such that it always returns a constant value (e.g.: 3)</li><li>3. Test the performance of the HashMap (by retrieving the list of running days for some of the added trains)</li><li>4. Rewrite Train hashCode() such that it does not always return a constant value</li><li>5. Test again the performance of the HashMap</li></ol> <p>Compare results from step3 with results from step5.</p> <p>No unit tests are required here.</p>	