

# Compulsory assignment 1 - INF 102 - Autumn 2017

## Tasks:

- 1) Comment on task 1: changed how the code works. Now i assume the text strings are separated with whitespace. Now it works with more-digit numbers rather than one digit.
- 2) Comment on task 2: I added the functionality that it gives a warning when we tries to \*back\* before the first page.
- 3) In task 3, I have implemented first Collections.sort. Which is a modified version of merge sort. This guarantees a linearithmic order of growth of the algorithm. (also it is told in the API, that it is  $N\log(N)$  ). But i changed it to Arrays.Sort, which guarantees the same order of growth.
- 4) When is sorting profitable:
  - a) In the task, it is asked when the break even is at S. I tested with the lower values first, like  $s = 5, 10, 50$  etc. But in all of those binary search and sort was slower than linear, which does not make sense. In my code the break is around 1170. Which is very unstable.
  - b) Every time i run the code, it differs from 10+- . So how could i get a more accurate result? To fix this, I should make another listGenerator method that can also generate values outside of the initial range of values. Then I should be able to see the runtime differences more clearly.