



Homework 07 Instructions

Have you ever played the card game called “patience” (also known as “solitaire”)? In this homework you will use the same idea of that famous card game to help you sort a list of numbers in ascending order. The pile of cards will be replaced by the input array with the numbers to be sorted. Below is an example that shows how the “patience sort” algorithm works. Basically it uses stacks of numbers in descending order. In case there isn’t a stack available, the algorithm creates a new stack.

Stack	Input Array
	[13, 12, 84, 79, 10, 77, 56, 1, 34, 27, 3]
13	[12, 84, 79, 10, 77, 56, 1, 34, 27, 3]
13 12	[84, 79, 10, 77, 56, 1, 34, 27, 3]
13 84 12	[79, 10, 77, 56, 1, 34, 27, 3]
13 84 12 79	[10, 77, 56, 1, 34, 27, 3]
13 84 12 79 10	[77, 56, 1, 34, 27, 3]
13 84 12 79 10 77	[56, 1, 34, 27, 3]
13 84 12 79 10 77 56	[1, 34, 27, 3]
13 84 12 79 10 77 1 56	[34, 27, 3]
13 84 12 79 10 77 1 56	[27, 3]

34	
13 84 12 79 10 77 1 56 34 27	[3]
13 84 12 79 10 77 1 56 34 27 3	[]

Once the algorithm finishes reading the input array, it just needs to merge the stacks in order to generate the final output.

Get the code template on GitHub (homework_07_patience_sort) and finish the TO DO.

Submission

You only need to submit the `PatienceSort.java` source code this time. **Do not copy-paste your code on Blackboard!** I will deduct 1 point if you do that this time and in the future.