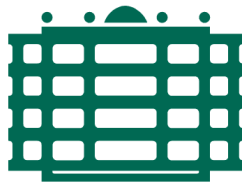


Software Engineering and Programming Basics - WS2021/22

Assignment 3



TECHNISCHE UNIVERSITÄT
CHEMNITZ

Professorship of Software Engineering

11 | 2021

Organisational

Deadline

22.11.2021 - 23:59

Submission

To submit your answers, please use the test item titled 'Submission' in the menu of Assignment 3. Click on 'Start Test'. You can pause the test and have your answers be saved temporarily. Click on 'Finish Test' to submit your answers. You have two tries. The latest try will be the one that is graded. You also need to adhere to the General Assignment Instructions.

Questions

Since this is a PVL, it is important that all students are able to access all necessary information. Therefore, if you have any questions, please ask them in the in the course forum in the thread 'Assignment 3: Questions'.

Task 1

Suppose we have to board passengers in the plane, the airport has introduced a policy that passengers should queue according to their seat numbers, to ensure this we want to write a software which will automatically organize the passengers in sitting order in plane. Here in this class **passenger** we focus on writing a method called **queue** which takes the standing position of passengers as an array and then swap their position in such a way that passengers are queued in ascending order of their seats. The method should return an array with new values.

Example 1:

Input: Passengers' Seat numbers {10,12,13,2,7,9,17,5}

Expected Queue Output: {2,5,7,9,10,12,13,17}

Example 2:

Input: Passengers' Seat numbers {}

Expected Queue Output: {}

Example 3:

Input: Passengers' Seat numbers {12}

Expected Queue Output: {12}

Task 2

Suppose you are given a string input, write a method **lengthOfLongestSubstring** to find the length of the longest substring without repeating characters.

Example 1:

Input: s = "abcabcbb"

Output: 3

Explanation: The answer is "abc", with the length of 3.

Example 2:

Input: s = "aaaaa"

Output: 1

Explanation: The answer is "a", with the length of 1.

Example 3:

Input: s = "pwwkew"

Output: 3

Explanation: The answer is "wke", with the length of 3.

Notice that the answer must be a substring, "pwke" is a subsequence and not a substring.

Example 4:

Input: Input: s = ""

Output: 0