**HW [8], [3/7/2019] MCS 253P**

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**Results Screenshots**

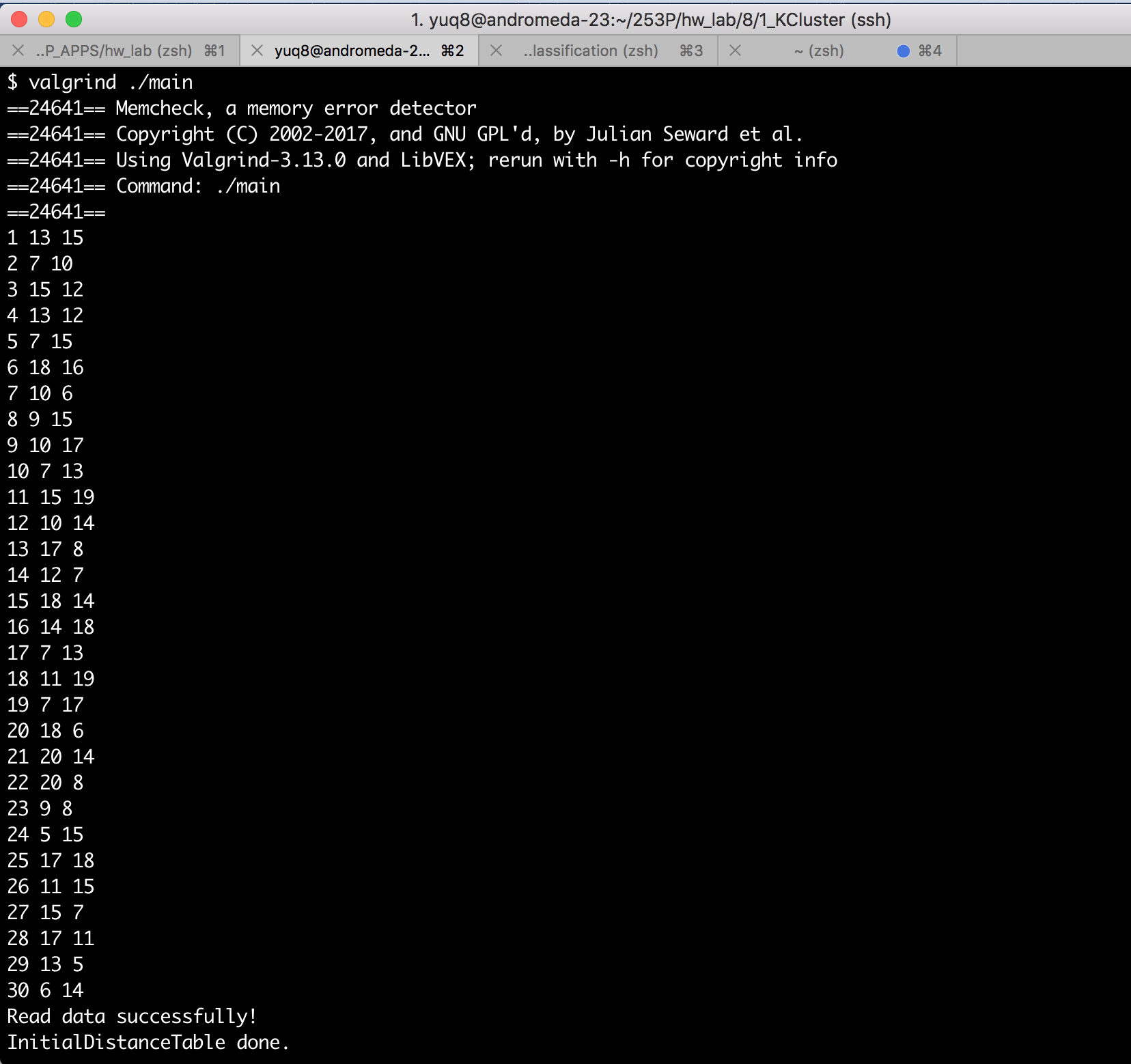
===========================start of the write-up====================

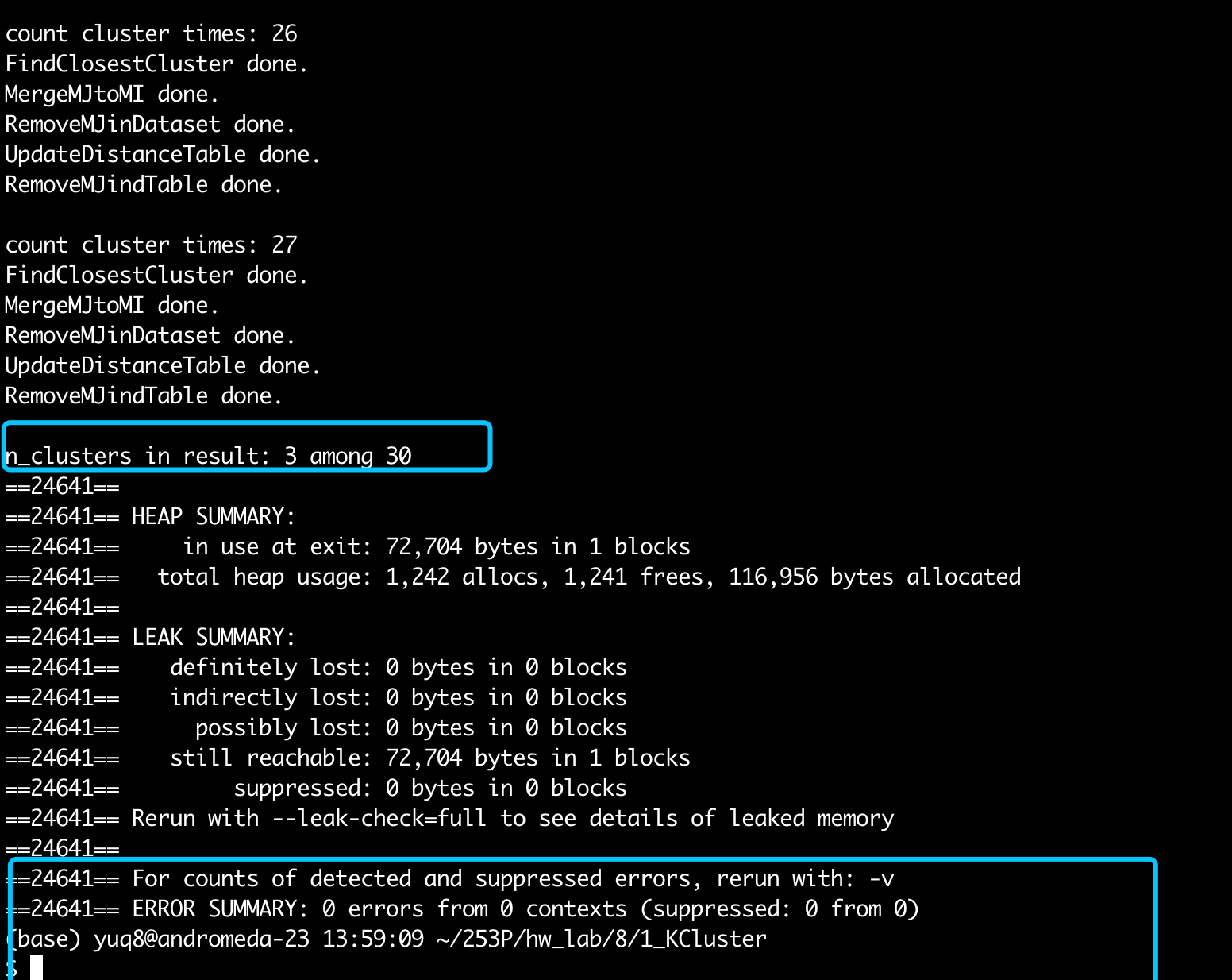
# **Lab 1: K-Cluster**

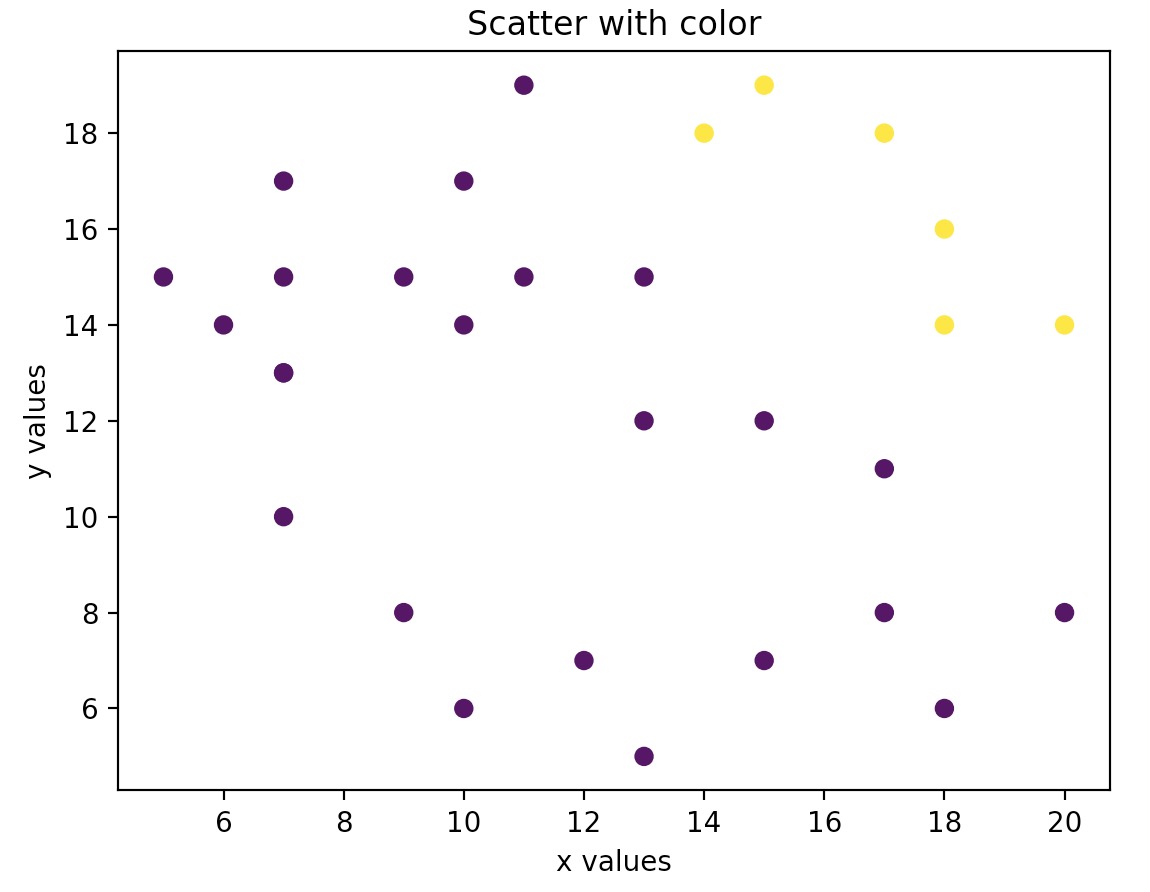
Code:

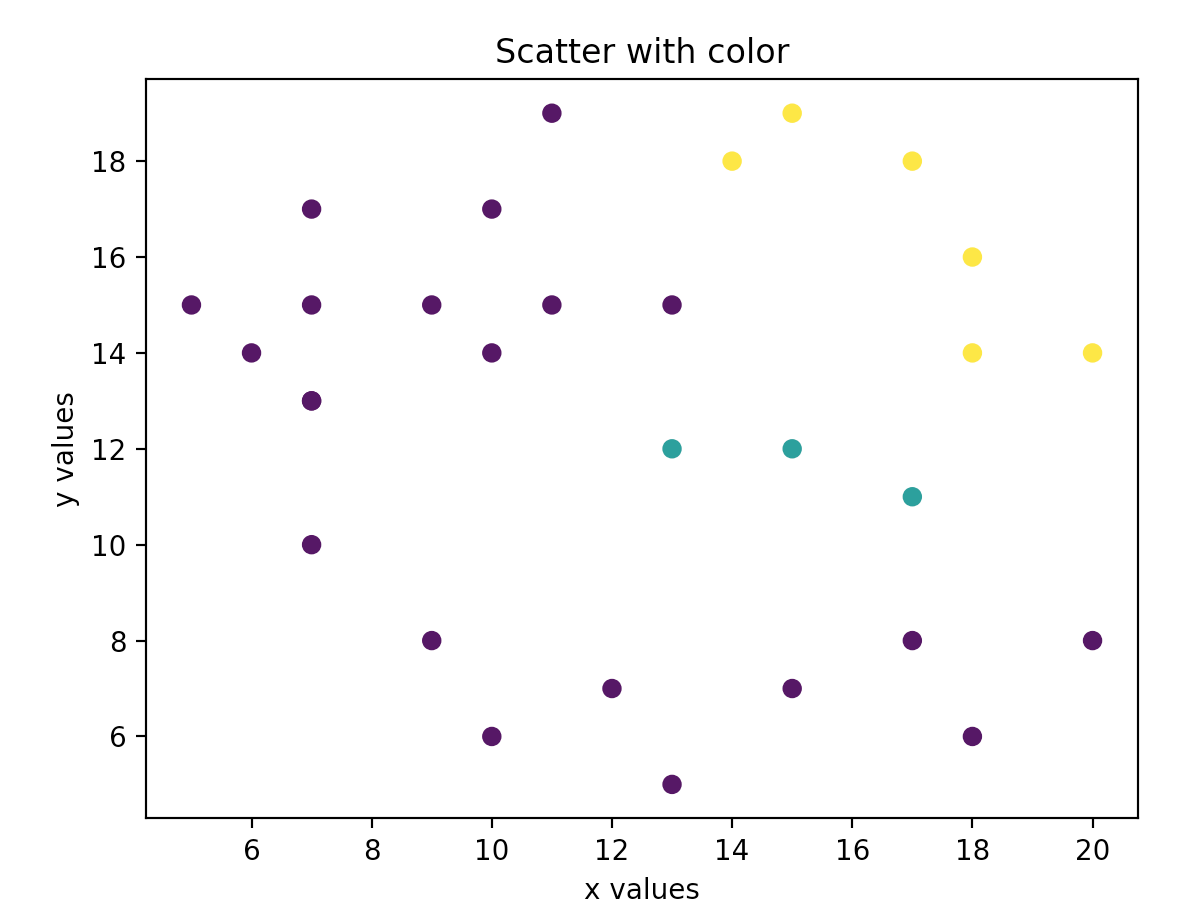


test case 1 and 2: with the std input given by prof, but different clusters of 2 and 3:

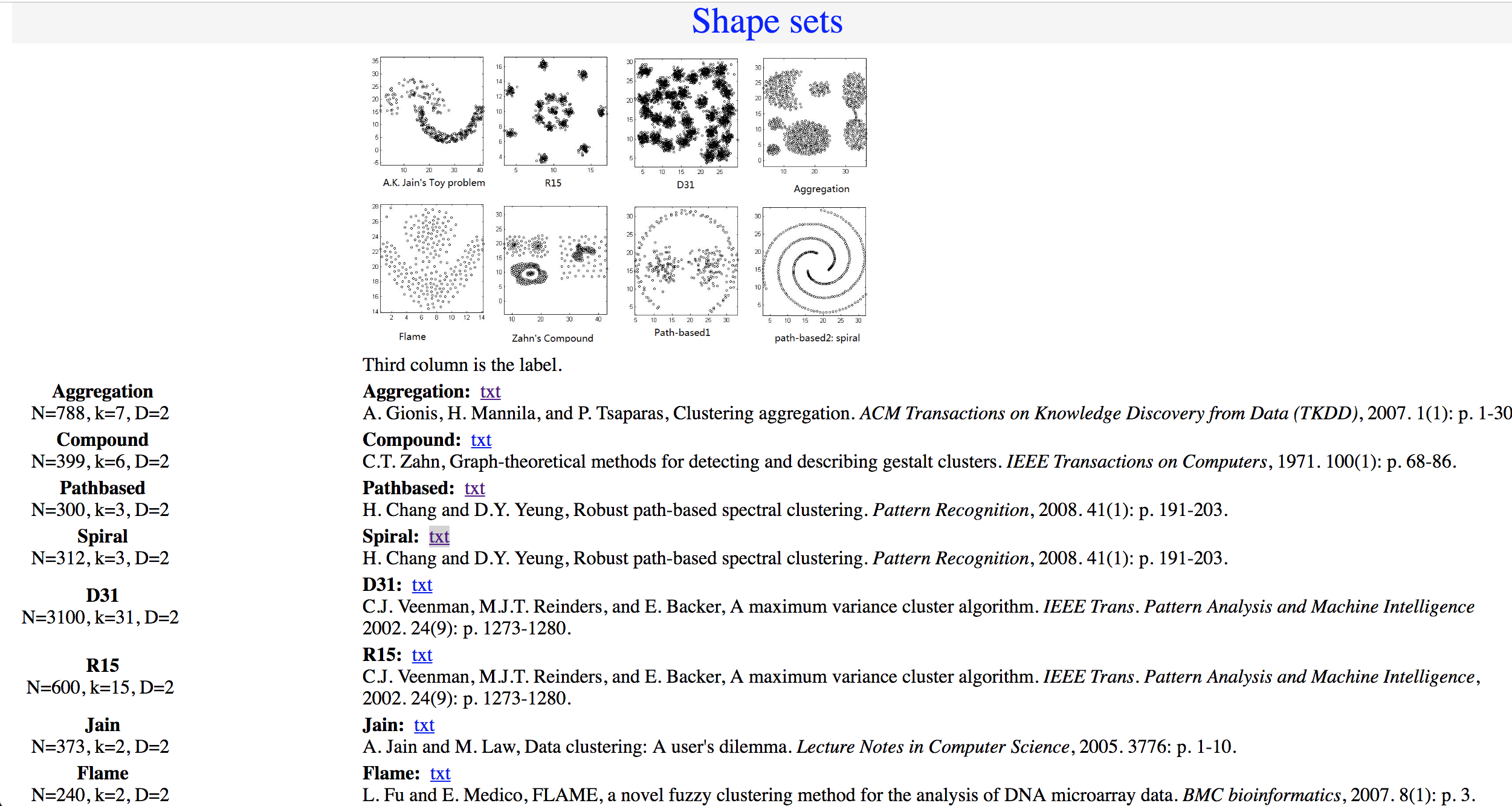




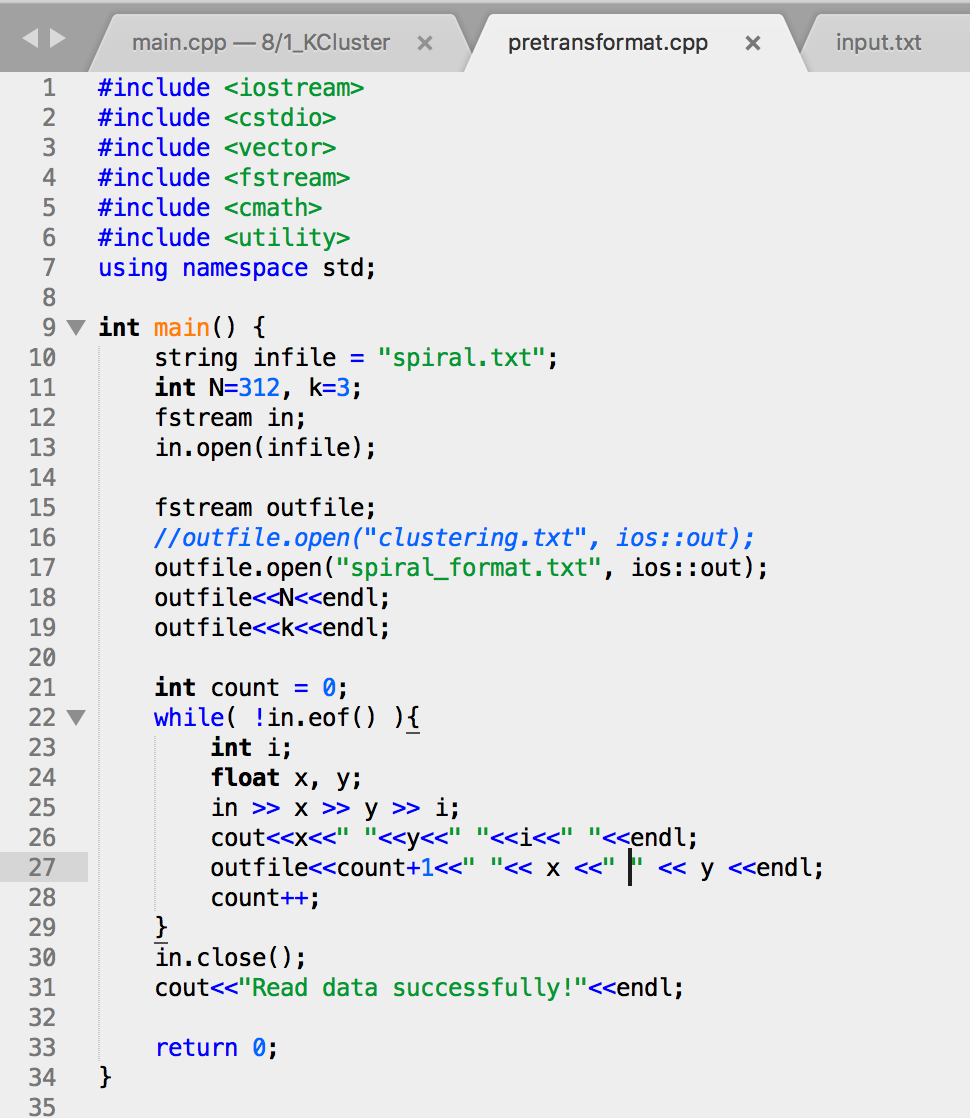




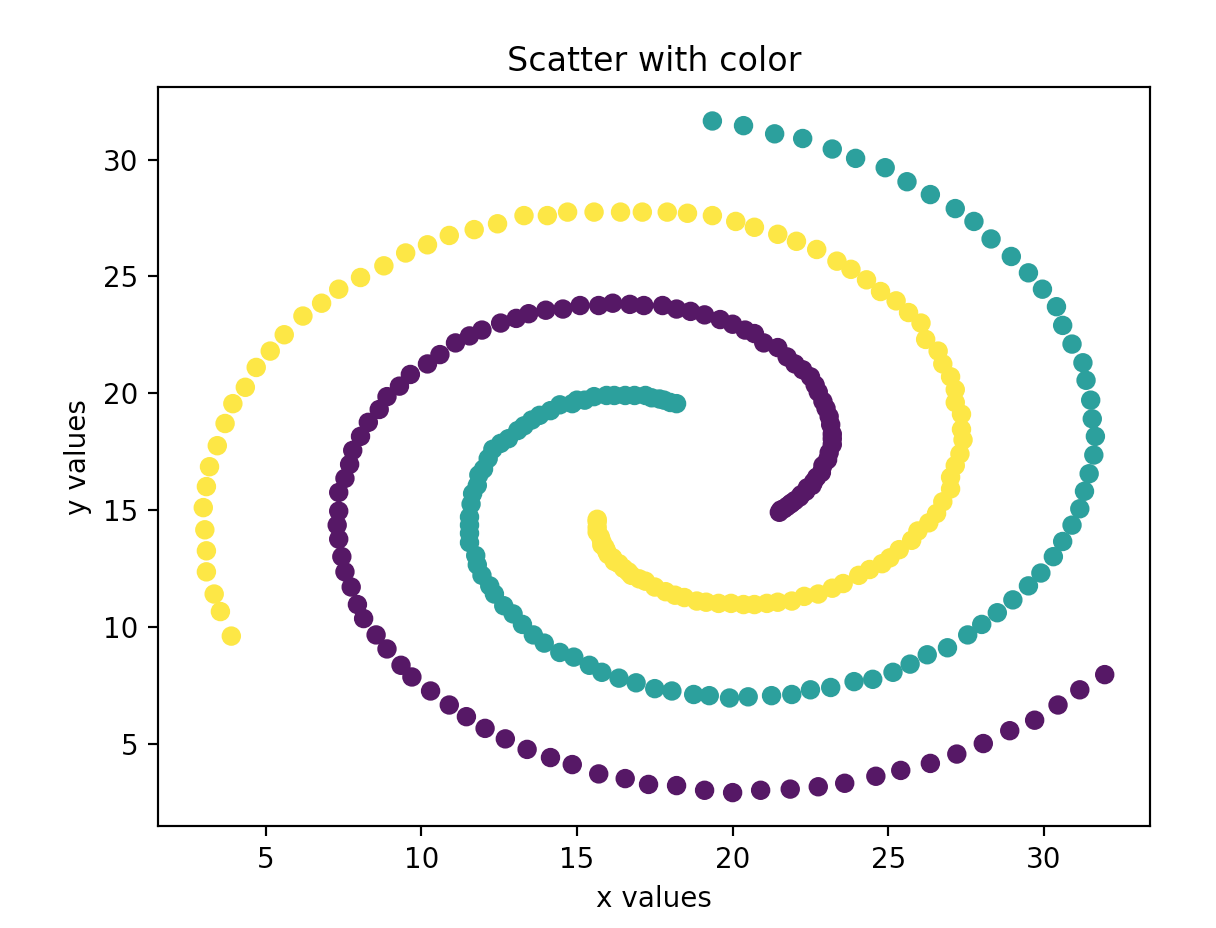
Stepping further, I find some test set in : <http://cs.joensuu.fi/sipu/datasets/> , for example:



and I transferred them to the desires format as our std input:



and the testcase 3 result are as follow:



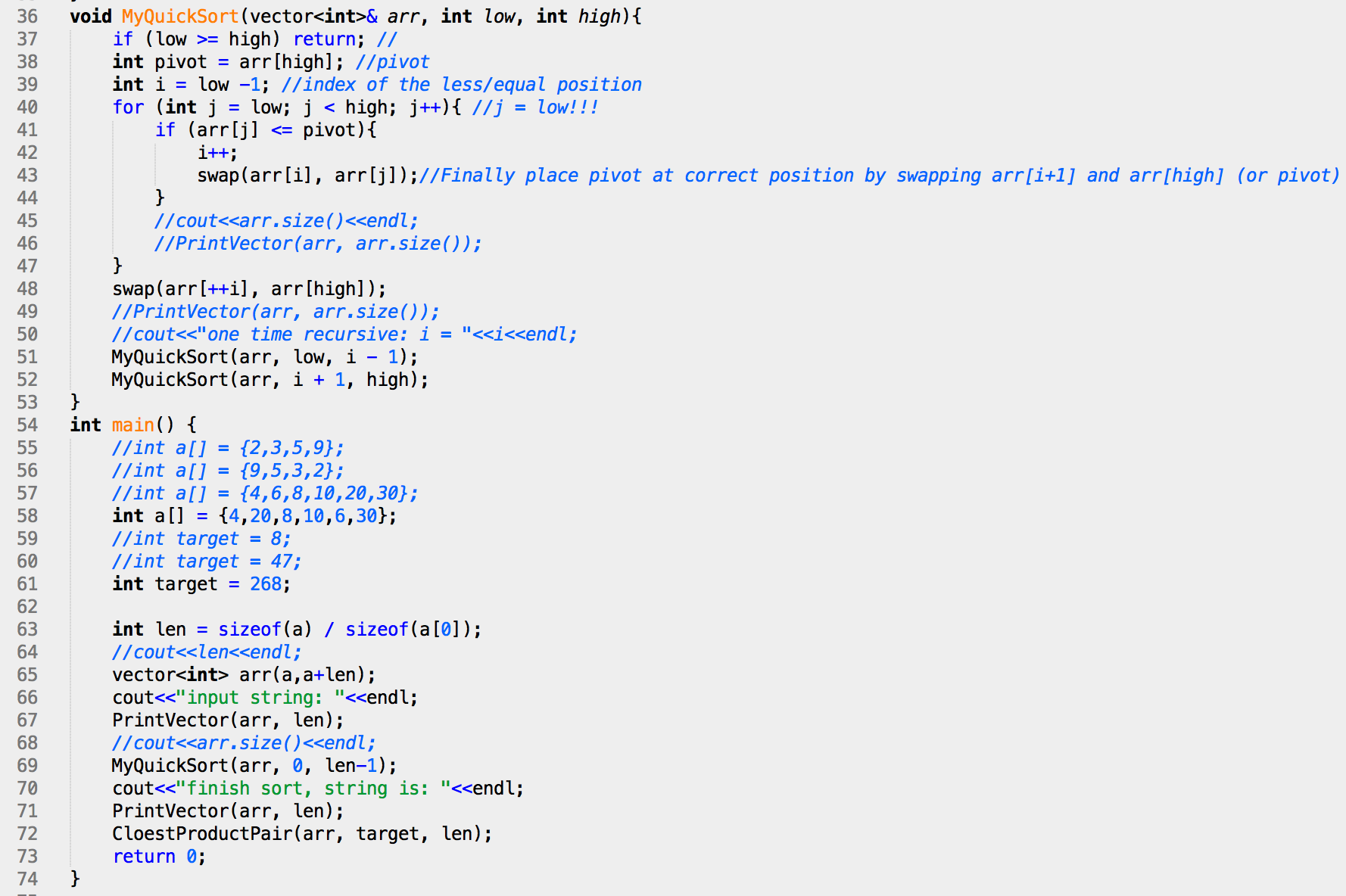
Conclusion: right result, 0 error in memory leak.

Little Notes:

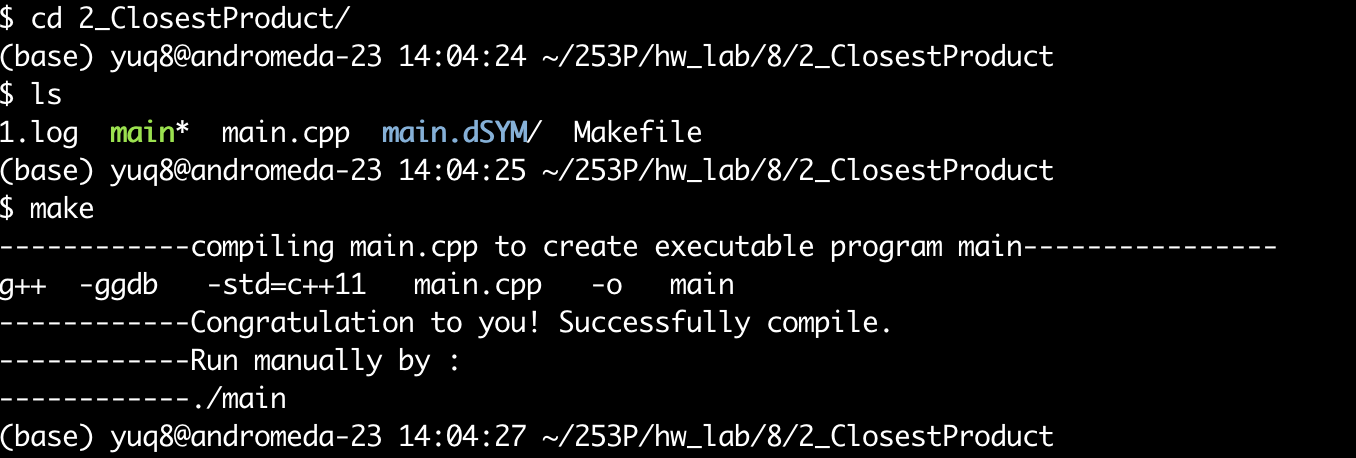
1. The different clustering critierion will make different results, like shortest, mean, longest.

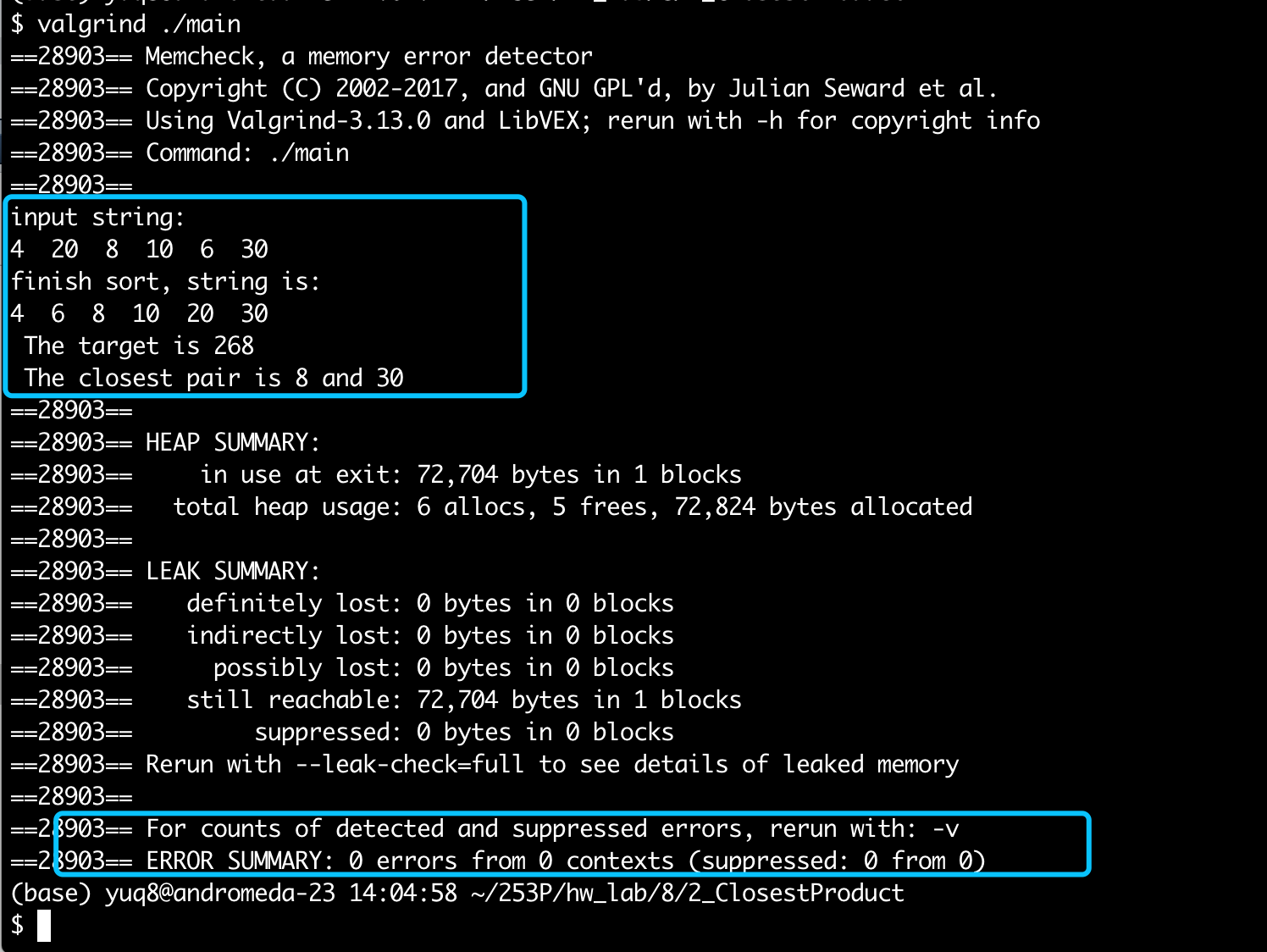
# Lab 2: closest product pair

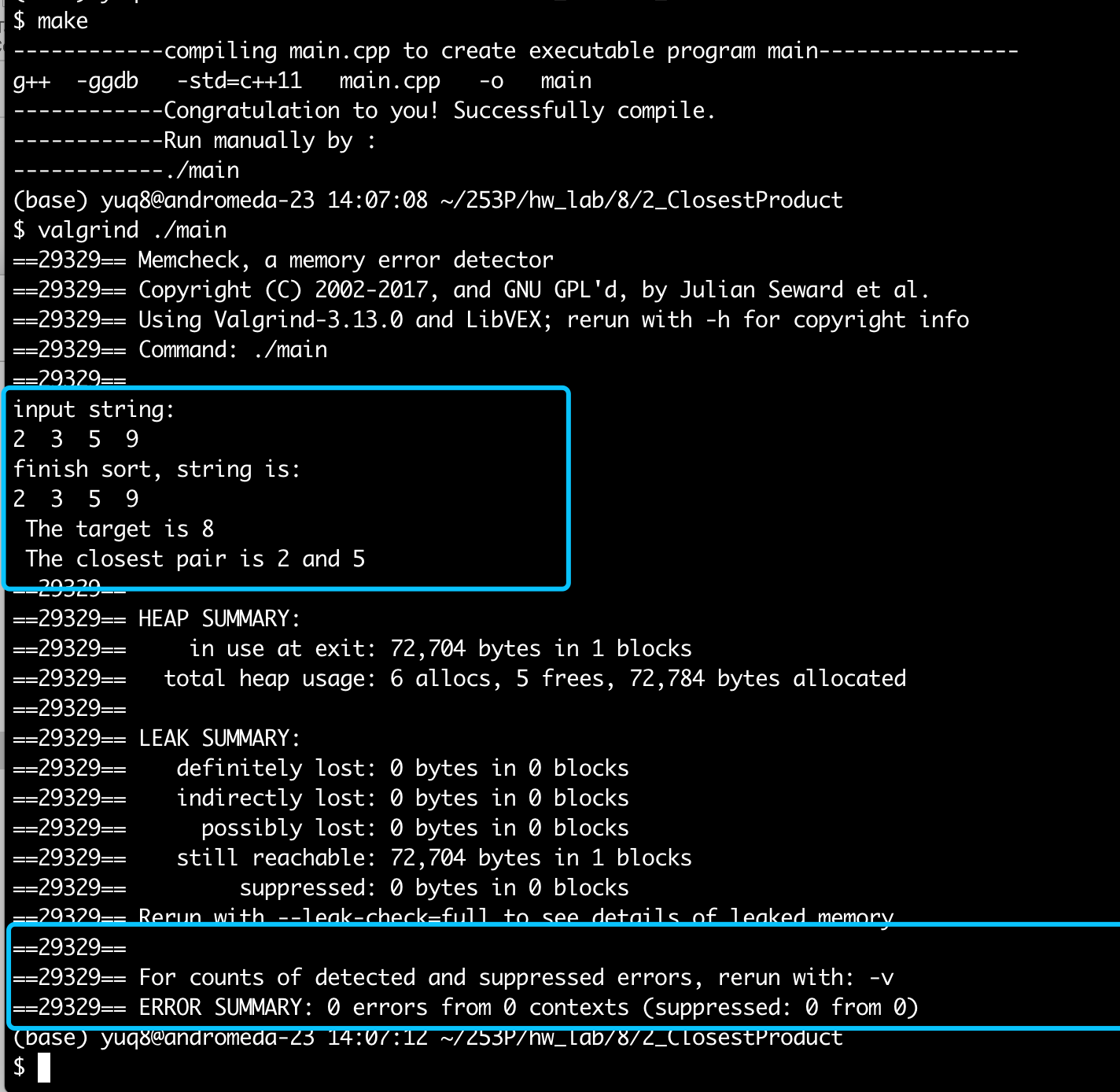
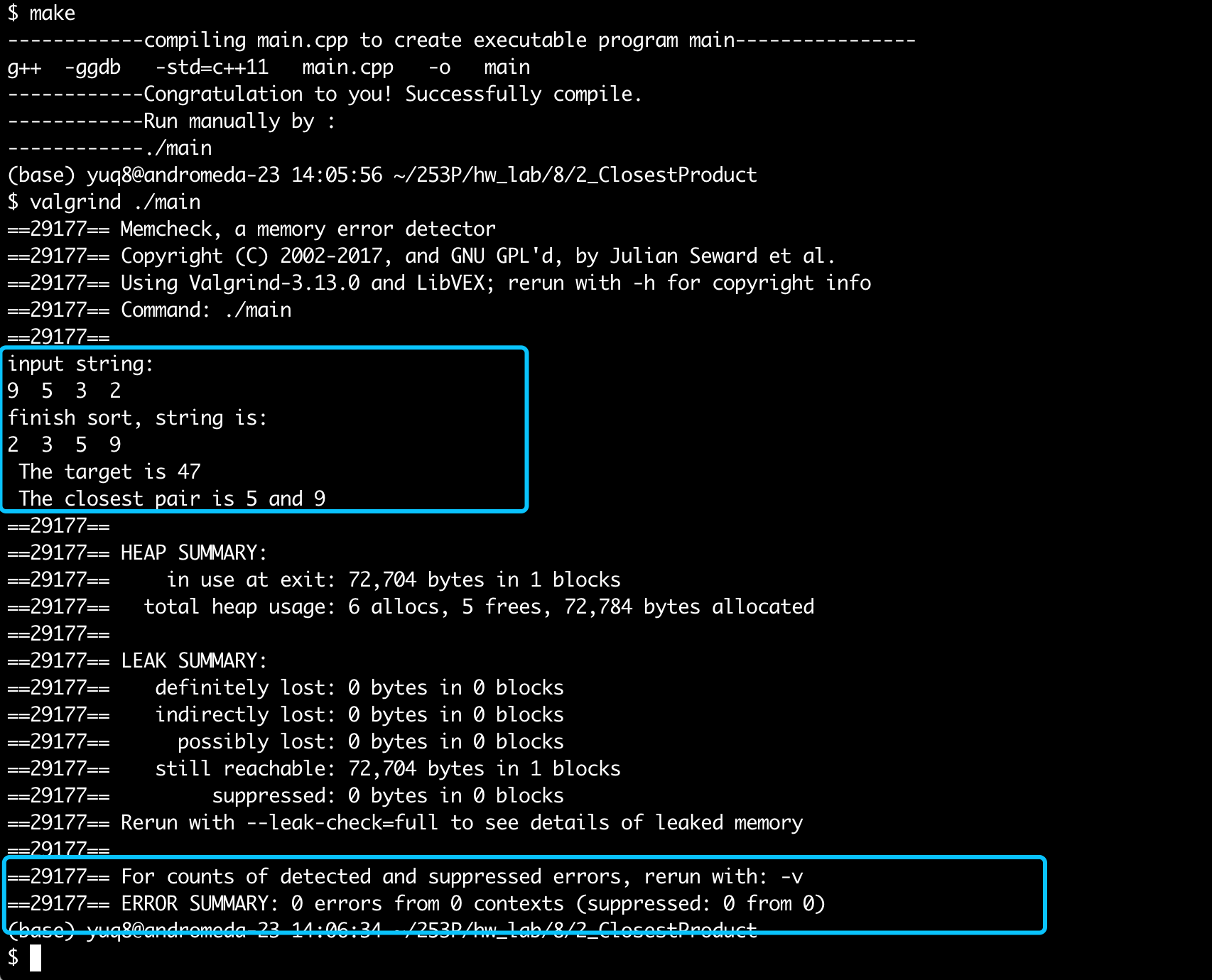
Code:



Test cases 1, 2, 3 :







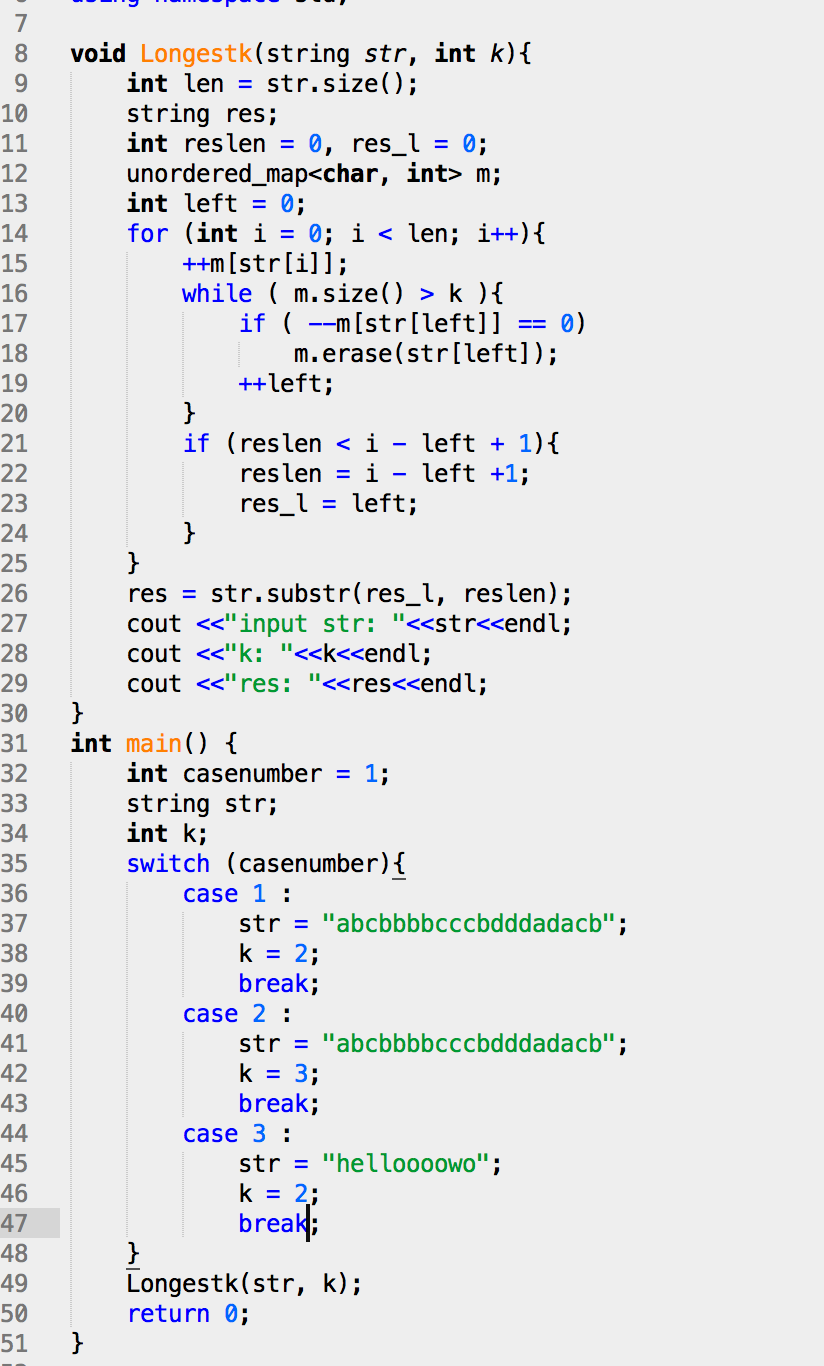
Conclusion: right result, 0 error in memory leak.

Little Notes:

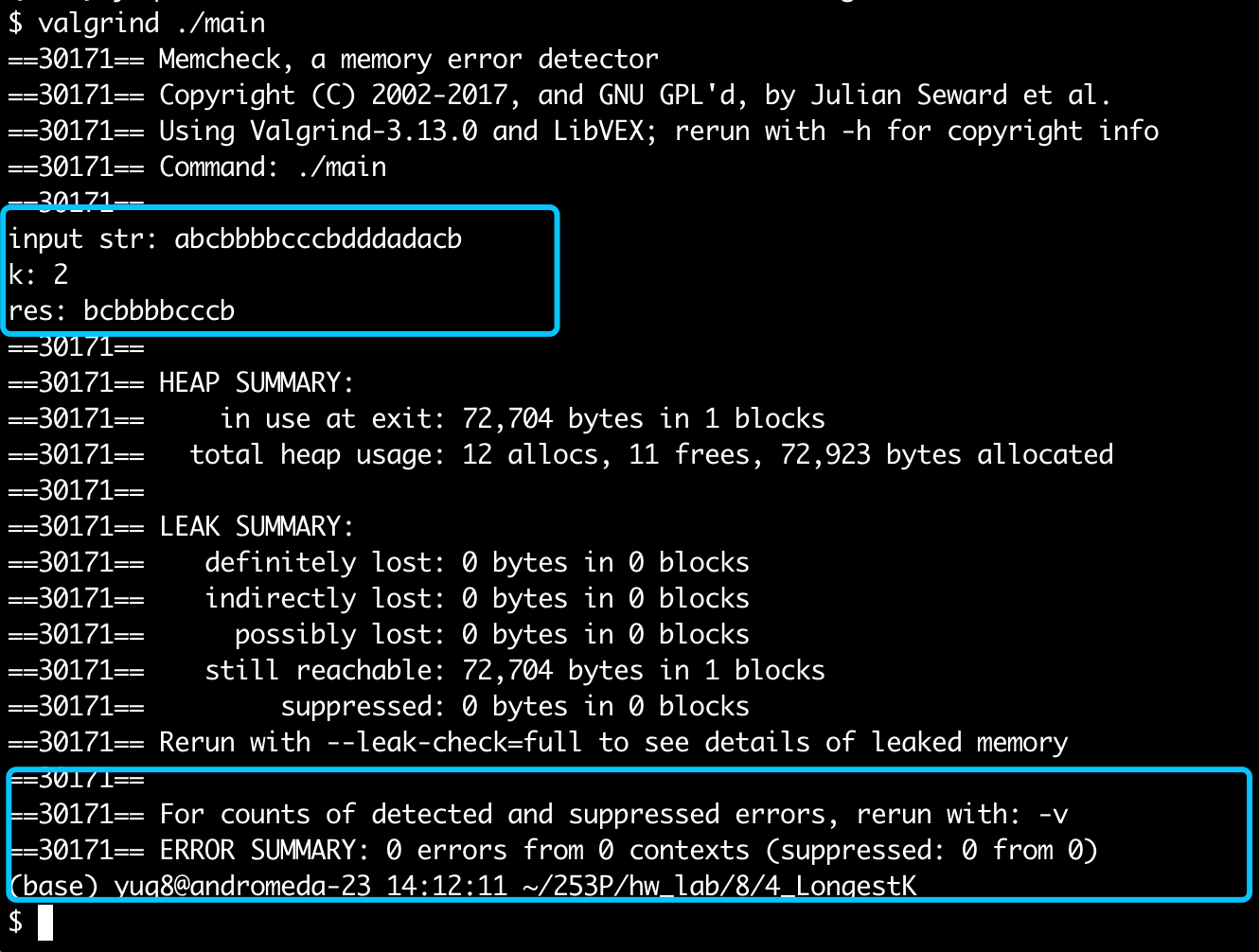
1. At this lab, when encountered with the same diff distance, the results are given by larger distance. Furthur work can be done to output both.

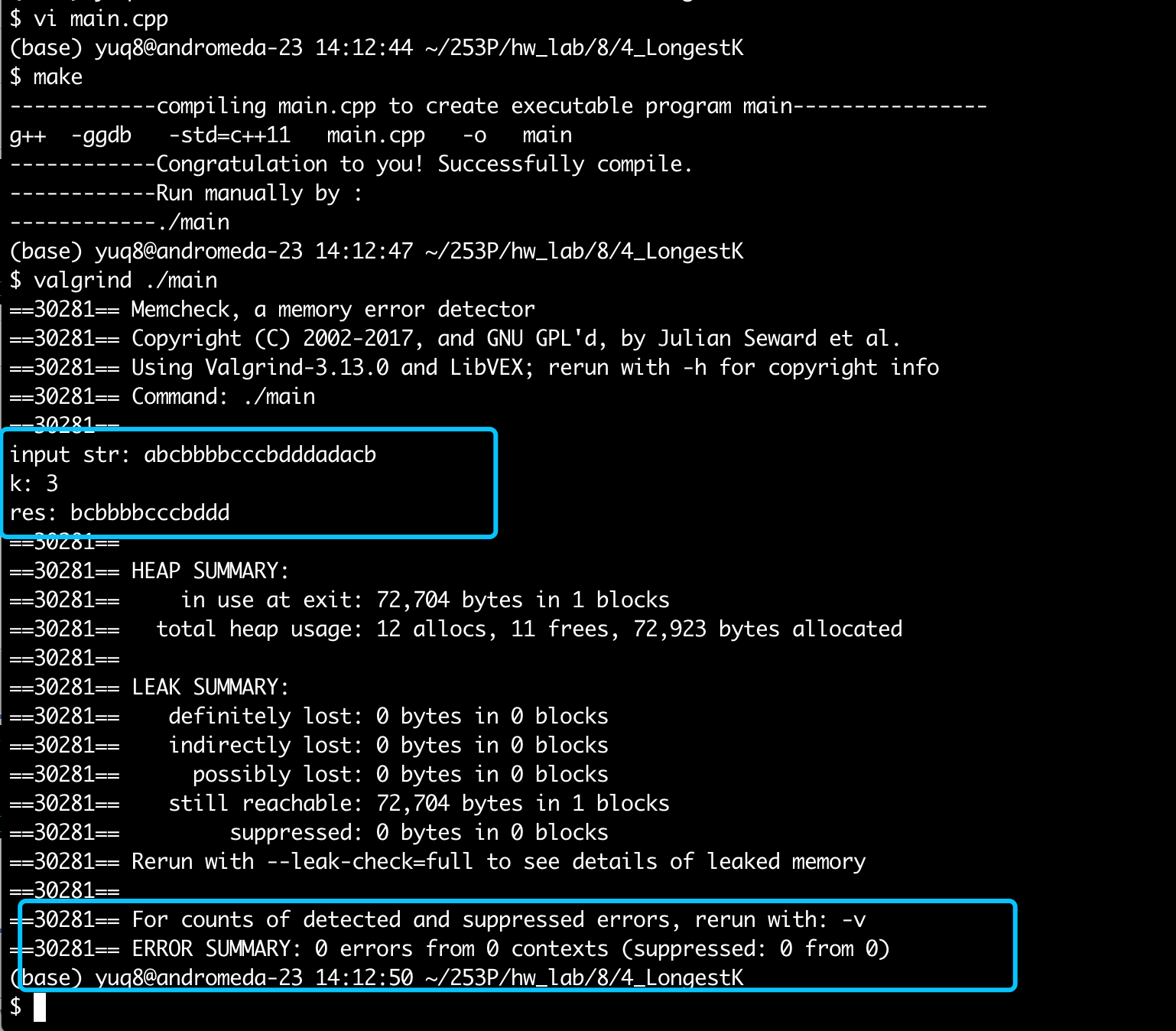
# Lab4:Longest K

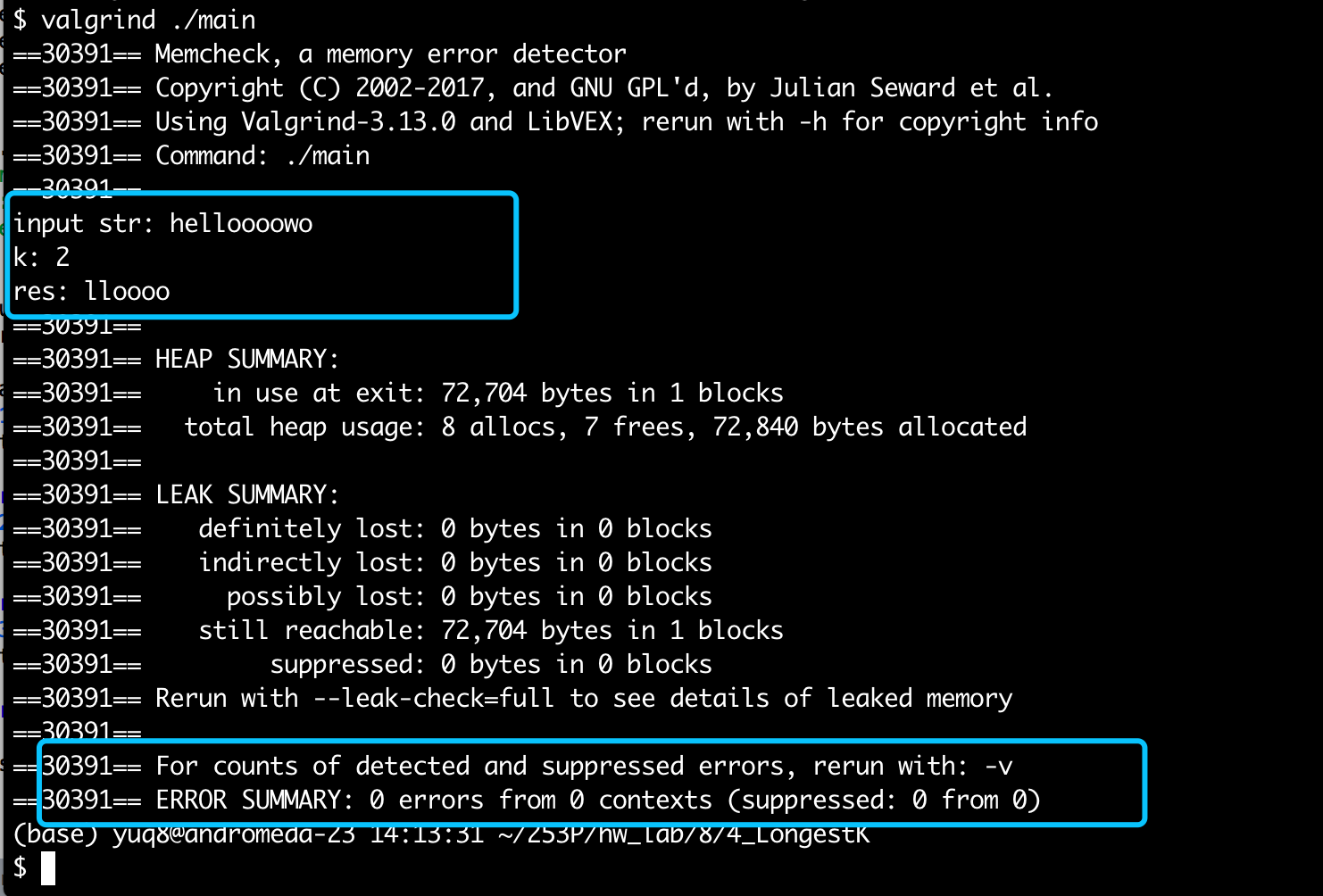
**Code：**

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**test cases 1,2, 3:**

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