COMPUTER SCIENCE

• Your program should be written in Java or Python-3

• No GUI should be used in your program: eg., easy gui in Python

• All the input and output should be via files with specified in the problem statement

• Python-3 programs should be submitted in a file with extension .py. No .txt, .dat, .pdf, .doc, .docx, etc. Programs submitted in incorrect format will not receive any points!

• Please briefly describe your algorithm in the comments at the top of your program.

Problem 1. (5 pts)

Your program will receive 2 sequences of digits (0-9) in the file input.txt. The program has to find the longest contiguous subpart consisting of identical digits that is present in both sequences and write it to a file called output.txt. For example, if input.txt contains:

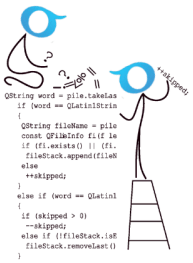
1123222345

35666532234222

output.txt should contain:

222

Note that the input sequences could be extremely long, requiring you to write an efficient program.



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Problem 2. (10 pts)

Your program will receive 2 sequences of digits (0-9) in the file input.txt. The program has to find the longest contiguous subpart that is present in both sequences and write it to a file called output.txt. For example, if input.txt contains:

1123222345

35666532234222

output.txt should contain:

2234

Note that the input sequences could be extremely long, requiring you to write an efficient program.