

Problem 2 [40pts]: Encrypt the message

"crypto to hide data"

Using a double transposition cipher (of the type described in the course slides) with 4 rows and 4 columns (spaces ignored), using the row permutation $(1, 2, 3, 4) \rightarrow (3, 2, 4, 1)$ and the column permutation $(1, 2, 3, 4) \rightarrow (3, 1, 2, 4)$.

Problem 3 [40pts]:

Using the ciphertext.txt file in the "SubstitutionProgramDistF22.zip" file associated with the assignment is an encrypted article about security that was created using a least simple substitution encryption. You must crack the key for the cipher from the encoded characters from the message. To do this use the same java tool we used in class (found on Blackboard in the zip file attached to this assignment). Make sure to read the "SubstitutionReadMe.txt" which explains how to use the program. **Enter below the contents of the cipher.txt mapping** (if a character(s) are never used just leave the mapping in upper case) **and then the decoded text for the first sentence.**