CS 313  
Warm-Up Project  
Fall 2017

Your project is to write a program that can encrypt and decrypt a message using a simple columnar transposition encryption algorithm. For the purposes of this project, you will use two steps of column transpositions.

The text file will consist of messages; each line will start with either E (encrypt) or D (decrypt), and two digits for the number of columns that will be used (or were used) to encrypt the message. Each message will end with “\*.”

The encryption works as follows:  
The message is written to a table of *n* columns of characters, filling one *row* at a time. When the message is completely written to the table, any blank spaces in the array will be filled with a character “rarely used”, such as X, Z, Q.   
The message is then rewritten by reading the table one *column*  at a time (reading down the columns), giving a permutation of the original message.   
Your program should output the encrypted message to a text file.

The decryption works “in reverse”:  
The message is written to a table of *n* columns of characters, filling one *column* at a time. (You will need to calculate the number of rows needed to store the encrypted message.) The message should fill the table completely.  
The message will then be rewritten by reading the table one *row* at a time (left to right order). The decrypted measure should then be written to a text file.

DUE: Friday, September 15, 2017.