The outputs of my code. Example entries are taken from the homework pdf.

```
U | [U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T]
V | [V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U]
W | [W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V]
X | [X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W]
Y | [Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X]
Z | [Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y]


 Text: data structures
 Key: java...


 **********
 Preprocessed Text: DATASTRUCTURES
 Preprocessed Key: JAVA


 **********
 ENCRYPTION
 Plaintext: DATASTRUCTURES
 Keystream: JAVAJAVAJAVAJA
 Ciphertext: MAOABTMULTPRNS


 **********
 DECRYPTION
 Ciphertext: DATASTRUCTURES
 Keystream: JAVAJAVAJAVAJA
 Plaintext: UAYAJTWUTTZRVS
root@AKDEMNB:/mnt/c/Users/AKDEMNB/Downloads/src#
```

```
root@AKDEMNB:/mnt/c/Users/AKDEMNB/Downloads/src# make
javac -g tester.java alphabet.java encryptor.java decryptor.java preprocessor.java
Note: tester.java uses unchecked or unsafe operations.
Note: Recompile with -Xlint:unchecked for details.
java tester
*** Viegenere Cipher ***


    [A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z]
    ------------------------------------------------------------------------------
A | [A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z]
B | [B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A]
C | [C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B]
D | [D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C]
E | [E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D]
F | [F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E]
G | [G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F]
H | [H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G]
I | [I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H]
J | [J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I]
K | [K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J]
L | [L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K]
M | [M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L]
N | [N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M]
O | [O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N]
P | [P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O]
Q | [Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P]
R | [R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q]
S | [S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R]
T | [T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S]
U | [U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T]
V | [V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U]
W | [W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V]
X | [X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W]
Y | [Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X]
Z | [Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y]


 Text: algorithm
 Key: 2 3 4 ! , 0
 Given input is not proper. Please try again.
root@AKDEMNB:/mnt/c/Users/AKDEMNB/Downloads/src#
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```
     [A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z]
     ----------------------------------------------------------------------------
A |  [A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z]
B |  [B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A]
C |  [C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B]
D |  [D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C]
E |  [E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D]
F |  [F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E]
G |  [G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F]
H |  [H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G]
I |  [I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H]
J |  [J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I]
K |  [K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J]
L |  [L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K]
M |  [M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L]
N |  [N, O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M]
O |  [O, P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N]
P |  [P, Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O]
Q |  [Q, R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P]
R |  [R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q]
S |  [S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R]
T |  [T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S]
U |  [U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T]
V |  [V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U]
W |  [W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V]
X |  [X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W]
Y |  [Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X]
Z |  [Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y]


Text: şşş2 3,!!!!
Key: abc
Given input is not proper. Please try again.
root@AKDEMNB:/mnt/c/Users/AKDEMNB/Downloads/src#
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```
W |  [W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V]
X |  [X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W]
Y |  [Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X]
Z |  [Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y]

Text: ILY
Key: CSE


**********
Preprocessed Text: ILY
Preprocessed Key: CSE


**********
ENCRYPTION
Plaintext: ILY
Keystream: CSE
Ciphertext: KDC


**********
DECRYPTION
Ciphertext: ILY
Keystream: CSE
Plaintext: GTU
root@AKDEMNB:/mnt/c/Users/AKDEMNB/Downloads/src#
```

```
U | [U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T]
V | [V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U]
W | [W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V]
X | [X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W]
Y | [Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X]
Z | [Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y]

Text: GTU
Key: CSE222-DATA

**********
Preprocessed Text: GTU
Preprocessed Key: CSEDATA

**********
ENCRYPTION
Plaintext: GTU
Keystream: CSE
Ciphertext: ILY

**********
DECRYPTION
Ciphertext: GTU
Keystream: CSE
Plaintext: EBQ
root@AKDEMNB:/mnt/c/Users/AKDEMNB/Downloads/src# make
javac -g tester.java alphabet.java encryptor.java decryptor.java preprocessor.java
```

```
T | [T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S]
U | [U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T]
V | [V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U]
W | [W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V]
X | [X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W]
Y | [Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X]
Z | [Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y]

Text: cse
Key: gtu

**********
Preprocessed Text: CSE
Preprocessed Key: GTU

**********
ENCRYPTION
Plaintext: CSE
Keystream: GTU
Ciphertext: ILY

**********
DECRYPTION
Ciphertext: CSE
Keystream: GTU
Plaintext: WZK
root@AKDEMNB:/mnt/c/Users/AKDEMNB/Downloads/src# []
```

```
R | [R, S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q]
S | [S, T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R]
T | [T, U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S]
U | [U, V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T]
V | [V, W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U]
W | [W, X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V]
X | [X, Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W]
Y | [Y, Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X]
Z | [Z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y]

Text: algor,ith,m
Key: data3 456


**********
Preprocessed Text: ALGORITHM
Preprocessed Key: DATA


**********
ENCRYPTION
Plaintext: ALGORITHM
Keystream: DATADATAD
Ciphertext: DLZOUIMHP


**********
DECRYPTION
Ciphertext: ALGORITHM
Keystream: DATADATAD
Plaintext: XLNOOIAHJ
root@AKDEMNB:/mnt/c/Users/AKDEMNB/Downloads/src#
```