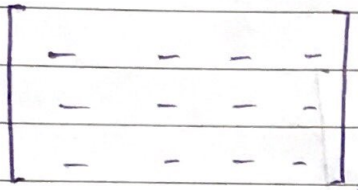
Data Matrix

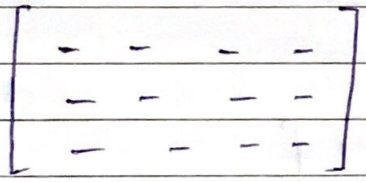
(m x n) Rectangular Matrix that holds non-negative values in it.



(m x n)

Key Matrix

(m x n) Rectangular Matrix that holds non-negative values in it.

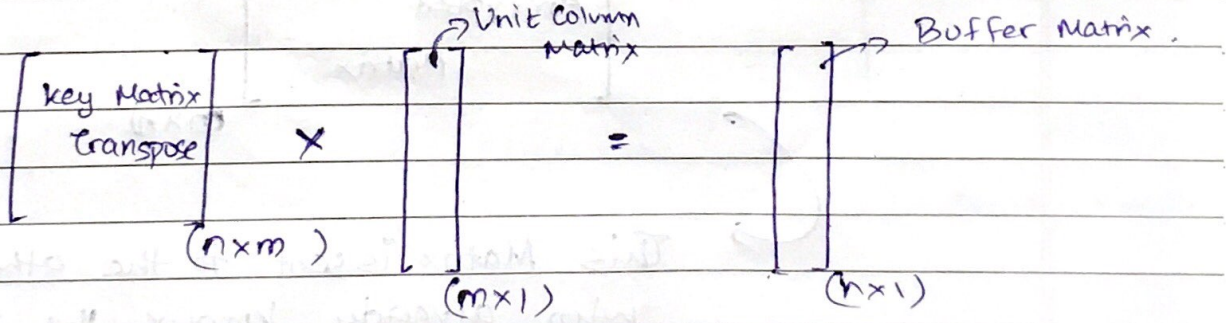


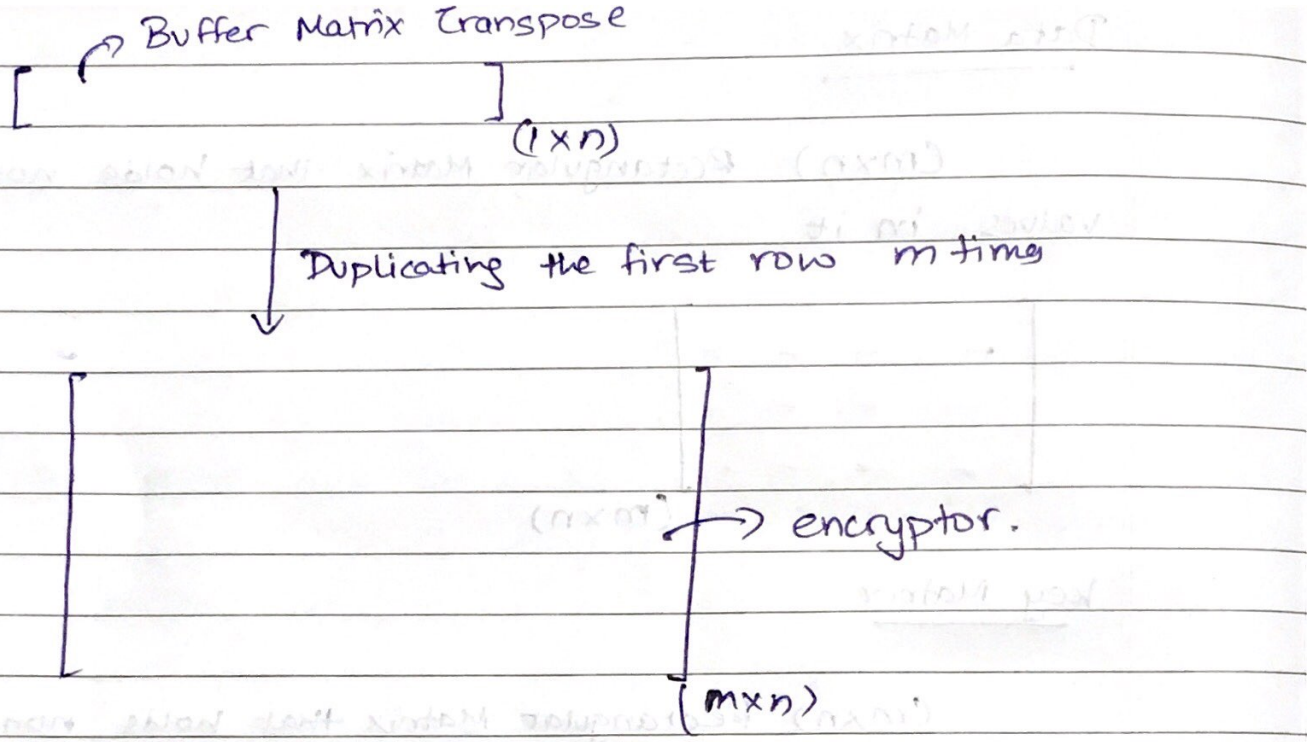
(m x n)

* Data Matrix and Key Matrix have to be of the same Dimension.

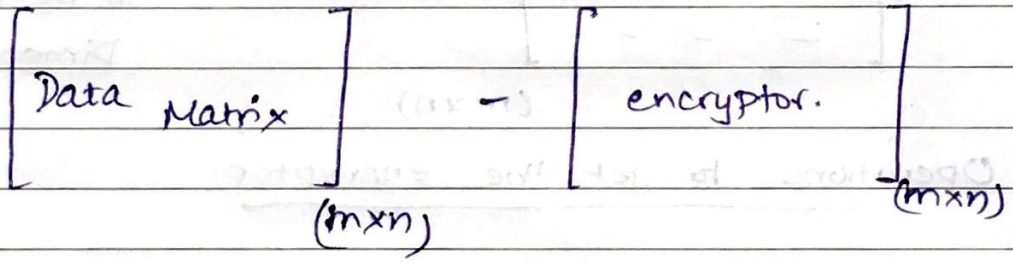
Operations to get the encryptor

Key Matrix Transpose multiplied with a Column unit vector and then that result is transposed and then the same first row values are duplicated m times.

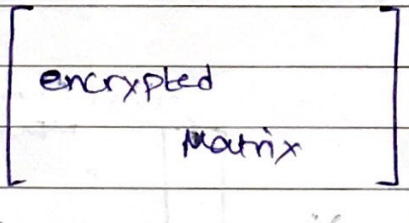




The encrypted Matrix



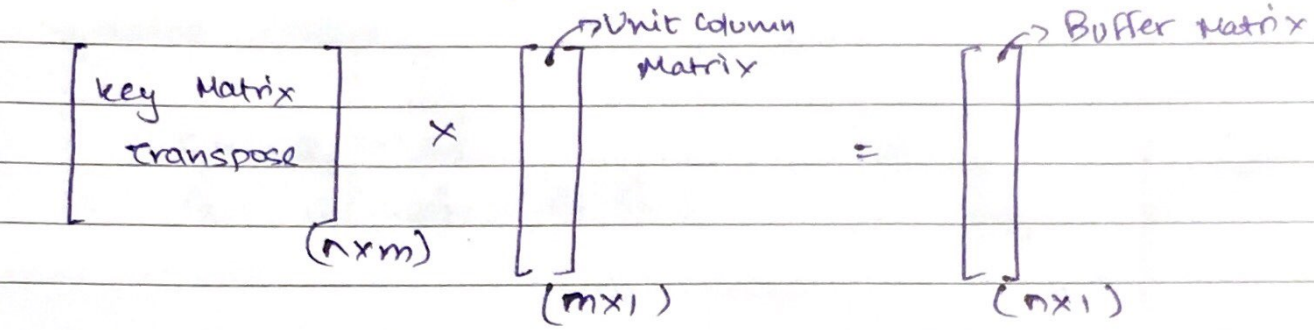
This results in a m x n encrypted matrix

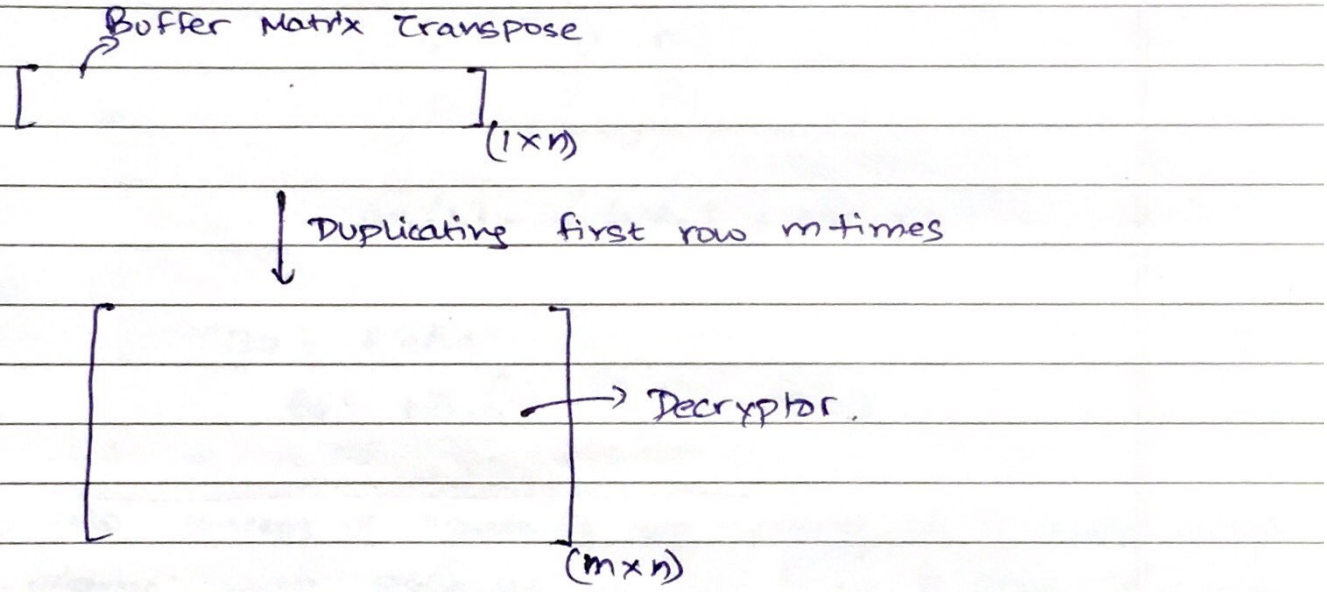


This Matrix is sent to the other person who already knows the key Matrix.

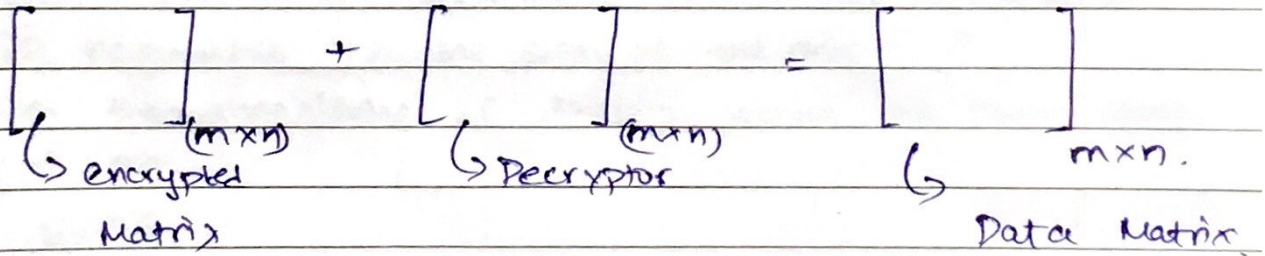
Decrypting the Matrix

The person on the other end performs the operations on the key matrix to get the Decryptor.





The Decrypted Matrix



The Data Matrix is obtained with any ~~loss~~ loss (In theory).