Q1. Write an in-mapper combiner **algorithm** modifying Co-occurrence Matrix (pairs approach) algorithm.

Q2. Write an in-mapper combiner **algorithm** modifying Co-occurrence Matrix (stripe approach) algorithm.

Q3. Assume that there are two input spits and two reducers. Note that Mapper 1 and Reducer 1 run on the same machine. Mapper 2 and Reducer 2 run on the same machine.

Further, let the partitioner  assign all words less than letter ‘k’ to Reducer 1 and  everything else to Reducer 2.

Input Split 1 : [ {cat mat rat, cat}, {cat  bat cat pat},{cat bat rat bat}]    (Note : 3 records)

Input Split 2 : [{cat rat bat rat}, {bat mat pat bat}, {pat cat bat mat}]    (Note: 3 records)

**Let the neighborhood of X, N(X) be set of all term after X and before the next X.**

Example: Let Data block be [a b c a d e]

N(a) = {b, c}, N(b) = {c, a, d, e}, N(c) = {a, d, e}, N(a) ={d, e}, N(d) = {e}, N(e) = {}.

1. Illustrate Pair approach
2. Illustrate In-Mapper Combining Version of the Pair approach. (The algorithm you wrote in Q1)
3. Illustrate Stripe approach.
4. Illustrate In-Mapper Combining Version of the Stripe approach. (The algorithm you wrote in Q2)