**Pseudo code**

With each paper, the number of undirected edges will equal the combination of the number of authors. For example, if there is an article with 3 authors (v1, v2, v3), then there exist undirected edges between (v1,v2), (v1, v3), (v2, v3) and (v2,v1), (v3, v1) and (v3, v2).

The algorithm will create an empty matrix with values 0 at each cell crossed by 2 authors. Next, it will go through each article once, with each combination of authors, the cell in the matrix will be updated by plus 1 for a combination.

**Step 1**: Create a matrix of mxm for m authors from n articles

For author in uniqueAuthors table:

If author [a] differs to author [b], then combination value at cell Author[a]xAuthor[b]equals 0

**Step 2**: Count author combinations in each article and update to the original matrix

For article 1 in Article&Author table:

(With x authors)

For author 1:

(If author [a] equals to author [b], then combination value equals 0)

If author [a] differs to author [b], then combination value equals 1

Then update to the corresponding value in the original matrix at cell Author[a]xAuthor[b]

For author 2:

...

For author x:

For article 2:

...

For article n:

End