BIG DATA ANALYTICS AND APPLICATIONS

LAB -1 Rakesh Reddy Bandi(02)

Map-Reduce pseudo code for Sum of Two Matrices.

We assume that the input files for A and B are streams of (key,value) pairs in **sparse** matrix format, where each key is a pair of indices (i,j) and each value is the respective matrix element value. i.e. $([i,j], A_{ij})$. Here Key is(i,j).

The output file for matrix A*B are in the same format as ([i,j], value).

1. Read Matrix A data from file1 having the first line data as A's rows and columns.

2. Read Matrix B data from file2 having the first line data as B's rows and columns.

3. If (rows[A]=rows[B] and columns[A]=columns[B]) then Matrix addition is possible and go to step 5.

4. Else exit the Job

5. map (key, value)
   from matrix A with key=(i,j) and value=A(i,j)
   emit ((i,j), A[i,j])
   from matrix B with key=(i,j) and value=B(i,j)
   emit ((i,j), B[i,j])

6. reduce (key, value)
   sum=0;
   for each val in value
   sum =sum + val ;
   emit(key, sum)

7. write (key, sum) key value pair in a file.

   This (key, sum) is sum of two matrices A and B.