

MatrixNorm

Matrix Norms With [MapReduce](#)

In examples package of Hama, we have introduced MapReduce-based computing methods for matrix norms.

- Maximum absolute column sum
- The root of sum of the sum of squares
- The maximum absolute row sum
- Largest entry in absolute value

Here's the example one of them. Matrix.Norm.One is that find the maximum absolute row sum of matrix.

```
The maximum absolute row sum =  $\max_{1 \leq i \leq n} \left( \sum_{j=1}^{j=n} |a_{i,j}| \right)$ 
```

- A map task receives a row n as a key, and vector of each row as its value
 - emit (row, the sum of the absolute value of each entries)
- Reduce task select the maximum one

Matrix.infinity, Matrix.Maxvalue and Matrix.Frobenius are almost same with this.