Report 1

Laboratory 1 Iot Big data processing
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Input

My input file contains a list of transactions. Each line contains the list of books of the transactions separated by spaces. One transaction is repeated.

```
book1 book4 book5
book6 book2 book7
book8 book9
bookz bookx bookq
book1 book11 bookz
book1 book11 bookz
book1 book9 bookz
book1 book5
```

Results

The results obtained by running map reduce on the previous input are shown below. On each line we can see a book and in brackets the recommendations for this book.

```
book1   [[book11, book4, book5, bookz, book9]]
book11  [[bookz, book1]]
book2   [[book7, book6]]
book4   [[book5, book1]]
book5   [[book1, book4]]
book6   [[book7, book2]]
book7   [[book6, book2]]
book8   [[book9]]
book9   [[bookz, book8, book1]]
bookq   [[bookz, bookx]]
bookx   [[bookz, bookq]]
bookz   [[book1, bookq, bookx, book11, book9]]
```

Mapper

On the mapper I split the received value in order to get the books and then I do a double loop to form all the possible couples of books and I write those couples in the context so the reduccer can process them.

Reducer

On the reducer I create a list and then I add all the books that correspond to the key in that list except those that are the same as the key or that have already been added to the list. The new list correspond to the recommendations for that book. Then I write the key and the string value of the list in the output file.