

1a)

The mapper function extracts these values for each line and sets it to a string tokenizer which sets the three values to source, target and weight using itr.next() function.

Input:

src	tgt	weight					
100	10	7		100	[7,30]		100 30
200	10	7		200	[7]		200 7
110	10	2	Mapper->	110	[2,67]	Reducer->	110 67
100	130	30		10	[15]		10 15
110	130	67					
10	101	15					

Mapper assigns the node's associated weights and Reducer chooses the maximum weight among that.

1b)

The mapper function extracts these values from the file and sets to sender, receiver and weights. The Reducer function gets the maximum sender of each node.

Input:

src	tgt	weight
100	10	7
200	10	7
110	10	2
100	130	30
110	130	67
10	101	15

Output :

```
10 100
101 10
130 110
```