

Mapper

function mapper (data) :

word-counts = {}

for each line in data:

date, message = split(",")

words = split(message)

for each word in words:

if (date, word) in word-counts:

word-counts[(date, word)] += 1

else:

word-counts[(date, word)] = 1

return word-counts

Reducer

function reducer(word-counts):

total-word-count = {}

for key, value in word-counts.items():

date, word = key

if word in total-word-count:

total-word-count[word] += value

else:

total-word-count[word] = value

return total-word-count

