**Input for Mapper 0 Input for Mapper 1 Input for Mapper 2**

apple lemon mango salmon wheat apple mango

barley salmon apple orange carrot rice salmon

mango carrot lemon carrot apple rice tuna

class Mapper

method Initialize

H = new AssociativeArray

method Map(docid a; doc d)

for all term t in doc d do

H{t} = H{t} + 1. //count number of each t

method Close

for all term t in H do

Emit(term t; count H{t})

**Output for Mapper 0 Output for Mapper 1 Output for Mapper 2**

(apple , 2) (barley , 1) (mango , 1)

(lemon , 1) (salmon , 1) (carrot , 2)

(mango , 1) (apple , 1) (lemon , 1)

(salmon , 1) (orange , 1) (apple , 1)

(wheat , 1) (carrot , 1) (rice , 1)

(rice , 1) (tuna , 1)

**Input for reducers**

**Key < k for Reducer 0 others for Reducer 1 Key > r for Reducer 2**

(apple , [2,1,1]) (lemon , [1,1]) (rice , [1,1])

(barley , [1]) (mango , [1,1]) (salmon , [1,1])

(carrot , [1,2]) (orange , [1]) (tuna , [1])

(wheat , [1])