

# MAP REDUCE ILLUSTRATED

Ex: New search:

"who cover more news about  
Mr. Barack Obama since Nov. 4"

Inputs:

url	content
cnn.com/under.html	
cnn.com/money/	
washpost.com/...	
nytimes.com/...	
	↓
	hundreds of millions of pages

MAP  
REDUCE  
MAGIC

news	#pages covered B.O.
cnn.com	512 pages
nytimes	478 pages
⋮	⋮

1

# BASIC MAP REDUCE

Inputs

Key	Value
a1	
a2	
a3	
a4	



Map (key, value) {

3 generate intermediate key-value



Intermediate table

key	value
b1	v
b2	v
b2	v
b3	v
b3	v
b3	v



(MapReduce merge matching keys)



Final result

key	value
c1	..
c2	..
c3	..
c4	..
c5	..



Reduce (key, values),

3 generate final key-value



b1	v
b2	v v
b3	v v v

Ex : Simple Math

1	*
2	*
3	*
4	*

→ Map()

1	1
1	4
1	9
1	16

→

1	1	4	9	16
---	---	---	---	----

↓

Reduce()

↓

*	30
---	----

⇓

final result .