

MapReduce

Classroom example

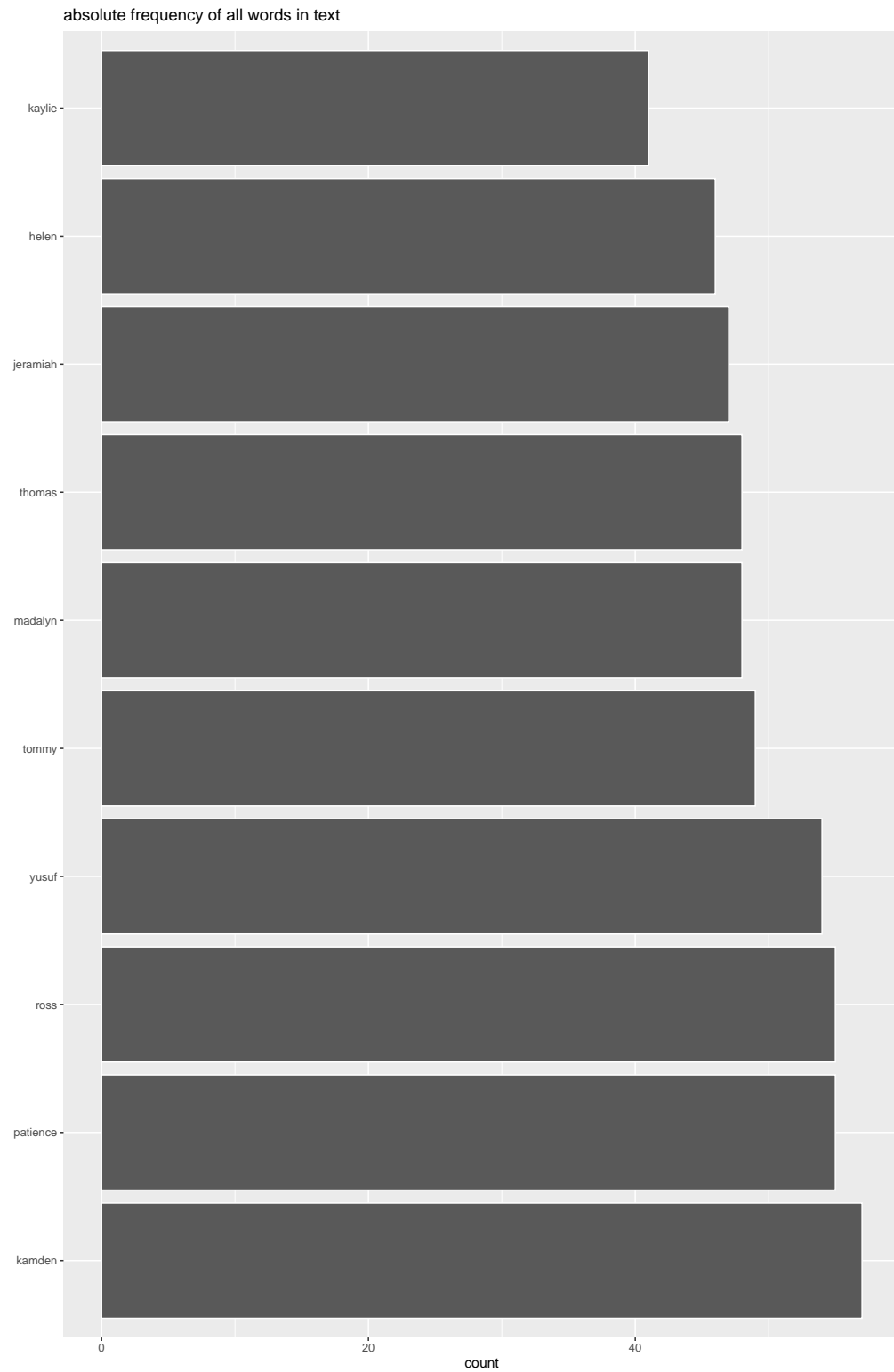
This is the file to create a map reduce classroom example. The setup is as follows

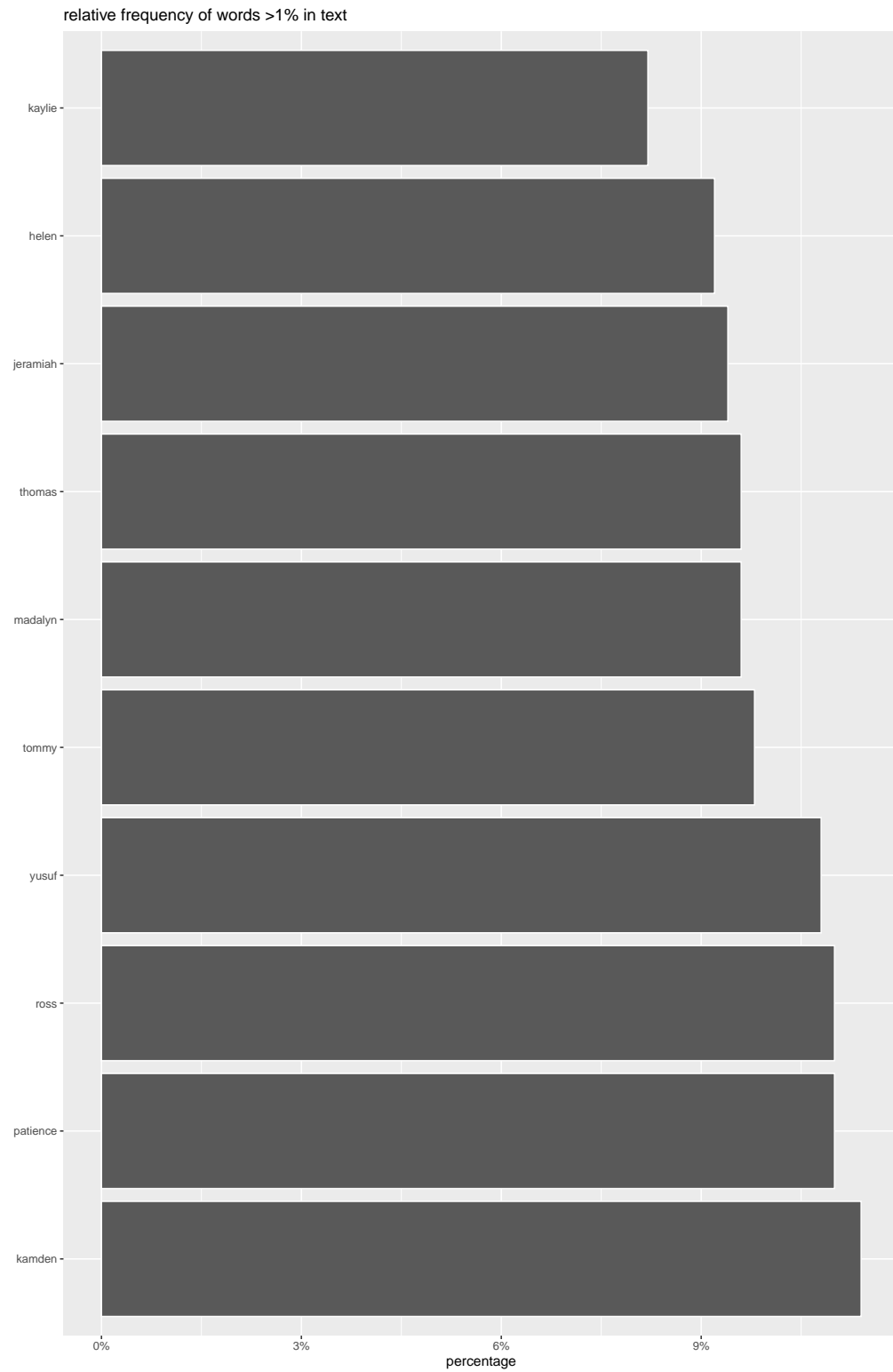
1. print this file
2. give the raw file to 1-4 students, they shall count the words. Measure the time. This is sequential processing.
3. give the chunked file to the respective number of students. There are $n = 2, 4, 5, 10$ groups available. The number of students is the chunk server.
4. one student acts as the “reduce” server, collecting all the counts.
5. write the counts on the whiteboard including the times
6. which number of groups is the most efficient and which produces considerable overhead?

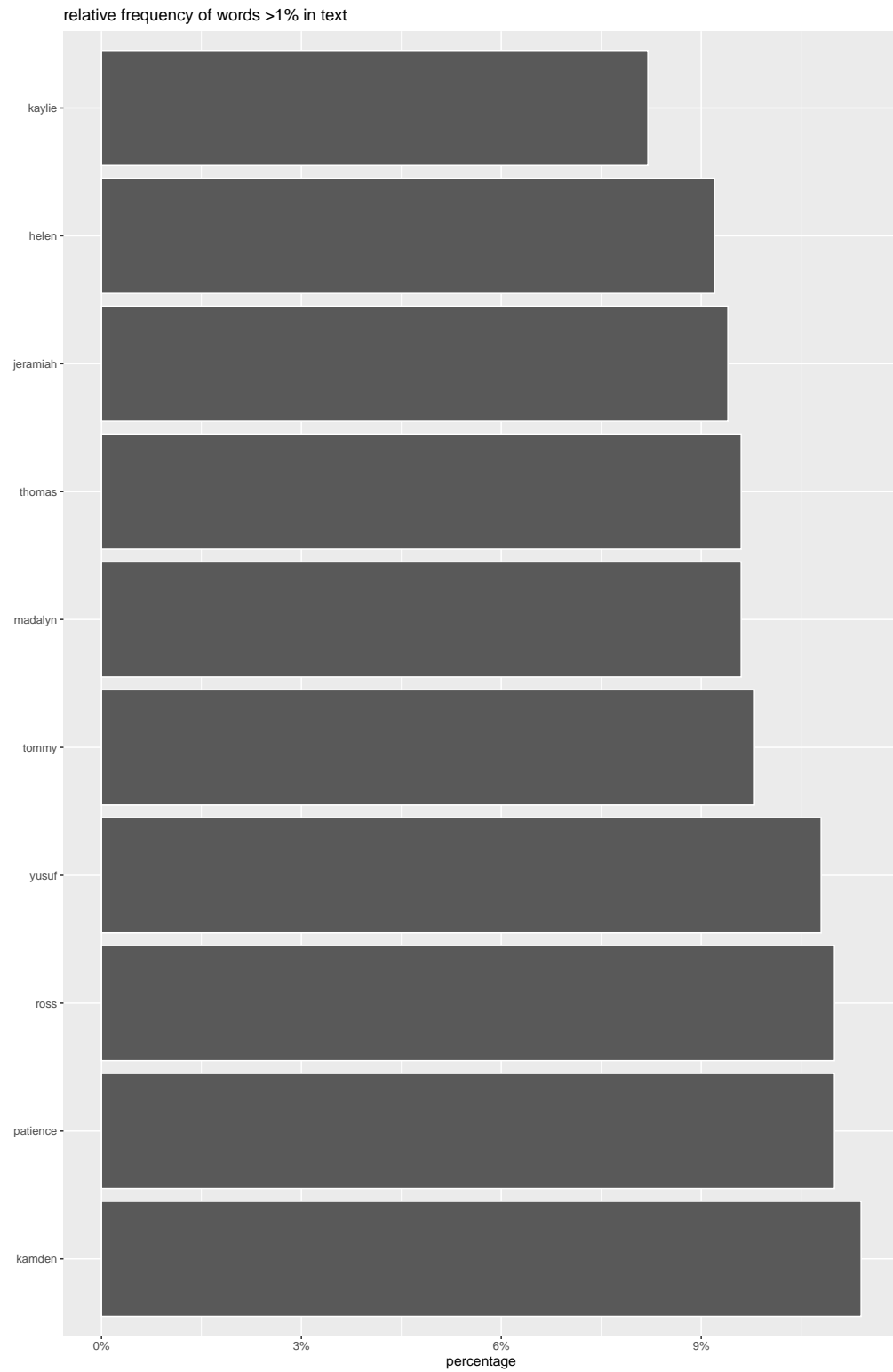
some summary statistics on the raw data

In total there are 500 words available.

words	Freq	percentage	percentage_round
kamden	57	11.40%	11.40%
patience	55	11.00%	11.00%
ross	55	11.00%	11.00%
yusuf	54	10.80%	10.80%
tommy	49	9.80%	9.80%
madalyn	48	9.60%	9.60%
thomas	48	9.60%	9.60%
jeramiah	47	9.40%	9.40%
helen	46	9.20%	9.20%
kaylie	41	8.20%	8.20%







The Raw data 01

Kamden, Tommy, Patience, Madalyn, Kamden, Patience, Yusuf, Kaylie, Yusuf, Kamden, Ross , Thomas, Tommy, Yusuf, Ross , Kamden, Jeramiah, Tommy, Kamden, Ross , Tommy, Kamden, Madalyn, Patience, Kaylie, Patience, Thomas, Helen, Ross , Kamden, Ross , Kaylie, Yusuf, Ross , Patience, Patience, Patience, Madalyn, Jeramiah, Tommy, Kaylie, Thomas, Ross , Tommy, Tommy, Yusuf, Tommy, Yusuf, Jeramiah, Tommy, Kaylie, Yusuf, Patience, Madalyn, Jeramiah, Ross , Yusuf, Thomas, Tommy, Ross , Jeramiah, Ross , Jeramiah, Patience, Kaylie, Kamden, Ross , Jeramiah, Helen, Jeramiah, Ross , Tommy, Kamden, Jeramiah, Ross , Yusuf, Jeramiah, Patience, Kaylie, Ross , Jeramiah, Yusuf, Madalyn, Kaylie, Madalyn, Patience, Thomas, Helen, Ross , Yusuf, Kamden, Kamden, Madalyn, Patience, Patience, Madalyn, Tommy, Kamden, Yusuf, Yusuf, Patience, Thomas, Kaylie, Yusuf, Kaylie, Kamden, Patience, Tommy, Ross , Kaylie, Yusuf, Thomas, Yusuf, Kamden, Kamden, Jeramiah, Yusuf, Madalyn, Tommy, Kamden, Ross , Helen, Ross , Ross , Patience, Yusuf, Ross , Helen, Jeramiah, Kamden, Kamden, Patience, Patience, Kaylie, Kamden, Madalyn, Patience, Kamden, Tommy, Jeramiah, Yusuf, Thomas, Ross , Jeramiah, Ross , Patience, Kamden, Yusuf, Tommy, Ross , Kaylie, Jeramiah, Jeramiah, Kamden, Tommy, Kamden, Ross , Thomas, Madalyn, Ross , Thomas, Kaylie, Madalyn, Thomas, Ross , Ross , Helen, Jeramiah, Patience, Ross , Thomas, Madalyn, Patience, Helen, Yusuf, Helen, Kaylie, Tommy, Helen, Jeramiah, Patience, Madalyn, Yusuf, Jeramiah, Ross , Patience, Kaylie, Helen, Kaylie, Madalyn, Madalyn, Thomas, Thomas, Kamden, Patience, Jeramiah, Ross , Patience, Tommy, Patience, Tommy, Madalyn, Tommy, Helen, Helen, Kaylie, Ross , Patience, Madalyn, Ross , Yusuf, Thomas, Tommy, Helen, Ross , Helen, Patience, Yusuf, Yusuf, Yusuf, Kamden, Tommy, Thomas, Yusuf, Thomas, Thomas, Tommy, Thomas, Jeramiah, Patience, Jeramiah, Madalyn, Thomas, Tommy, Jeramiah, Helen, Yusuf, Kaylie, Tommy, Helen, Kamden, Yusuf, Jeramiah, Yusuf, Thomas, Patience, Helen, Kaylie, Madalyn, Yusuf, Jeramiah, Kaylie, Madalyn, Madalyn, Thomas, Ross , Kaylie, Tommy, Ross , Patience, Kaylie, Kamden, Tommy, Kamden, Thomas, Kamden, Tommy, Kamden, Patience, Yusuf, Thomas, Kamden, Patience, Jeramiah, Madalyn, Helen, Kamden, Thomas, Yusuf, Kaylie, Kamden, Ross , Jeramiah, Yusuf, Kaylie, Helen, Kamden, Kaylie, Helen, Yusuf, Jeramiah, Patience, Kamden, Madalyn, Madalyn, Tommy, Kamden, Kamden, Patience, Kaylie, Thomas, Kaylie, Tommy, Helen, Helen, Madalyn, Tommy, Yusuf, Kamden, Ross , Thomas, Kaylie, Tommy, Ross , Yusuf, Kamden, Patience, Thomas, Kaylie, Tommy, Madalyn, Patience, Patience, Patience, Tommy, Helen, Madalyn, Ross , Jeramiah, Thomas, Jeramiah, Helen, Helen, Helen, Madalyn, Ross , Kamden, Ross , Ross , Jeramiah, Thomas, Kamden, Madalyn, Patience, Patience, Madalyn, Jeramiah, Yusuf, Jeramiah, Madalyn, Helen, Ross , Kaylie, Helen, Tommy, Thomas, Madalyn, Helen, Kaylie, Jeramiah, Thomas, Kamden, Jeramiah, Yusuf, Kamden, Ross , Jeramiah, Tommy, Tommy, Thomas, Kaylie, Kaylie, Patience, Yusuf, Jeramiah, Kamden, Kamden, Thomas, Thomas, Thomas, Yusuf, Madalyn, Ross , Kamden, Madalyn, Patience, Helen, Tommy, Jeramiah, Tommy, Helen, Kaylie, Yusuf, Helen, Madalyn, Kamden, Patience, Jeramiah, Thomas, Kamden, Madalyn, Tommy, Madalyn, Kaylie, Tommy, Madalyn, Kaylie, Helen, Helen, Yusuf, Patience, Helen, Helen, Yusuf, Thomas, Jeramiah, Thomas, Ross , Tommy, Jeramiah, Mada-

lyn, Helen, Yusuf, Patience, Helen, Madalyn, Madalyn, Thomas, Ross , Helen, Helen, Tommy, Patience, Kamden, Madalyn, Thomas, Yusuf, Yusuf, Thomas, Thomas, Patience, Patience, Tommy, Patience, Thomas, Thomas, Kamden, Ross , Kamden, Kaylie, Yusuf, Kaylie, Thomas, Patience, Kamden, Kamden, Jeramiah, Madalyn, Ross , Kamden, Ross , Yusuf, Tommy, Tommy, Ross , Yusuf, Jeramiah, Madalyn, Yusuf, Helen, Madalyn, Kamden, Helen, Helen, Jeramiah, Helen, Yusuf, Thomas, Kaylie, Kamden, Helen, Jeramiah, Patience, Kaylie, Yusuf, Kamden, Thomas, Tommy, Jeramiah, Patience, Ross , Ross , Yusuf, Helen, Ross , Tommy, Ross , Patience, Madalyn, Madalyn

The Raw data 02

Kamden, Tommy, Patience, Madalyn, Kamden, Patience, Yusuf, Kaylie, Yusuf, Kamden, Ross , Thomas, Tommy, Yusuf, Ross , Kamden, Jeramiah, Tommy, Kamden, Ross , Tommy, Kamden, Madalyn, Patience, Kaylie, Patience, Thomas, Helen, Ross , Kamden, Ross , Kaylie, Yusuf, Ross , Patience, Patience, Patience, Madalyn, Jeramiah, Tommy, Kaylie, Thomas, Ross , Tommy, Tommy, Yusuf, Tommy, Yusuf, Jeramiah, Tommy, Kaylie, Yusuf, Patience, Madalyn, Jeramiah, Ross , Yusuf, Thomas, Tommy, Ross , Jeramiah, Ross , Jeramiah, Patience, Kaylie, Kamden, Ross , Jeramiah, Helen, Jeramiah, Ross , Tommy, Kamden, Jeramiah, Ross , Yusuf, Jeramiah, Patience, Kaylie, Ross , Jeramiah, Yusuf, Madalyn, Kaylie, Madalyn, Patience, Thomas, Helen, Ross , Yusuf, Kamden, Kamden, Madalyn, Patience, Patience, Madalyn, Tommy, Kamden, Yusuf, Yusuf, Patience, Thomas, Kaylie, Yusuf, Kaylie, Kamden, Patience, Tommy, Ross , Kaylie, Yusuf, Thomas, Yusuf, Kamden, Kamden, Jeramiah, Yusuf, Madalyn, Tommy, Kamden, Ross , Helen, Ross , Ross , Patience, Yusuf, Ross , Helen, Jeramiah, Kamden, Kamden, Patience, Patience, Kaylie, Kamden, Madalyn, Patience, Kamden, Tommy, Jeramiah, Yusuf, Thomas, Ross , Jeramiah, Ross , Patience, Kamden, Yusuf, Tommy, Ross , Kaylie, Jeramiah, Jeramiah, Kamden, Tommy, Kamden, Ross , Thomas, Madalyn, Ross , Thomas, Kaylie, Madalyn, Thomas, Ross , Ross , Helen, Jeramiah, Patience, Ross , Thomas, Madalyn, Patience, Helen, Yusuf, Helen, Kaylie, Tommy, Helen, Jeramiah, Patience, Madalyn, Yusuf, Jeramiah, Ross , Patience, Kaylie, Helen, Kaylie, Madalyn, Madalyn, Thomas, Thomas, Kamden, Patience, Jeramiah, Ross , Patience, Tommy, Patience, Tommy, Madalyn, Tommy, Helen, Helen, Kaylie, Ross , Patience, Madalyn, Ross , Yusuf, Thomas, Tommy, Helen, Ross , Helen, Patience, Yusuf, Yusuf, Yusuf, Kamden, Tommy, Thomas, Yusuf, Thomas, Thomas, Tommy, Thomas, Jeramiah, Patience, Jeramiah, Madalyn, Thomas, Tommy, Jeramiah, Helen, Yusuf, Kaylie, Tommy, Helen, Kamden, Yusuf, Jeramiah, Yusuf, Thomas, Patience, Helen, Kaylie, Madalyn, Yusuf, Jeramiah, Kaylie, Madalyn, Madalyn, Thomas, Ross , Kaylie, Tommy, Ross , Patience, Kaylie, Kamden, Tommy, Kamden, Thomas, Kamden, Tommy, Kamden, Patience, Yusuf, Thomas, Kamden, Patience, Jeramiah, Madalyn, Helen, Kamden, Thomas, Yusuf, Kaylie, Kamden, Ross , Jeramiah, Yusuf, Kaylie, Helen, Kamden, Kaylie, Helen, Yusuf, Jeramiah, Patience, Kamden, Madalyn, Madalyn, Tommy, Kamden, Kamden, Patience, Kaylie, Thomas, Kaylie, Tommy, Helen, Helen, Madalyn, Tommy, Yusuf, Kamden, Ross , Thomas, Kaylie, Tommy, Ross , Yusuf, Kamden, Patience, Thomas, Kaylie, Tommy, Madalyn, Patience, Patience, Patience, Tommy, Helen, Madalyn, Ross , Jeramiah, Thomas, Jeramiah, Helen, Helen, Helen, Madalyn, Ross , Kamden, Ross , Ross , Jeramiah, Thomas, Kamden, Madalyn, Patience, Patience, Madalyn, Jeramiah, Yusuf, Jeramiah, Madalyn, Helen, Ross , Kaylie, Helen, Tommy, Thomas, Madalyn, Helen, Kaylie, Jeramiah, Thomas, Kamden, Jeramiah, Yusuf, Kamden, Ross , Jeramiah, Tommy, Tommy, Thomas, Kaylie, Kaylie, Patience, Yusuf, Jeramiah, Kamden, Kamden, Thomas, Thomas, Thomas, Yusuf, Madalyn, Ross , Kamden, Madalyn, Patience, Helen, Tommy, Jeramiah, Tommy, Helen, Kaylie, Yusuf, Helen, Madalyn, Kamden, Patience, Jeramiah, Thomas, Kamden, Madalyn, Tommy, Madalyn, Kaylie, Tommy, Madalyn, Kaylie, Helen, Helen, Yusuf, Patience, Helen, Helen, Yusuf, Thomas, Jeramiah, Thomas, Ross , Tommy, Jeramiah, Mada-

lyn, Helen, Yusuf, Patience, Helen, Madalyn, Madalyn, Thomas, Ross , Helen, Helen, Tommy, Patience, Kamden, Madalyn, Thomas, Yusuf, Yusuf, Thomas, Thomas, Patience, Patience, Tommy, Patience, Thomas, Thomas, Kamden, Ross , Kamden, Kaylie, Yusuf, Kaylie, Thomas, Patience, Kamden, Kamden, Jeramiah, Madalyn, Ross , Kamden, Ross , Yusuf, Tommy, Tommy, Ross , Yusuf, Jeramiah, Madalyn, Yusuf, Helen, Madalyn, Kamden, Helen, Helen, Jeramiah, Helen, Yusuf, Thomas, Kaylie, Kamden, Helen, Jeramiah, Patience, Kaylie, Yusuf, Kamden, Thomas, Tommy, Jeramiah, Patience, Ross , Ross , Yusuf, Helen, Ross , Tommy, Ross , Patience, Madalyn, Madalyn

The Raw data 03

Kamden, Tommy, Patience, Madalyn, Kamden, Patience, Yusuf, Kaylie, Yusuf, Kamden, Ross , Thomas, Tommy, Yusuf, Ross , Kamden, Jeramiah, Tommy, Kamden, Ross , Tommy, Kamden, Madalyn, Patience, Kaylie, Patience, Thomas, Helen, Ross , Kamden, Ross , Kaylie, Yusuf, Ross , Patience, Patience, Patience, Madalyn, Jeramiah, Tommy, Kaylie, Thomas, Ross , Tommy, Tommy, Yusuf, Tommy, Yusuf, Jeramiah, Tommy, Kaylie, Yusuf, Patience, Madalyn, Jeramiah, Ross , Yusuf, Thomas, Tommy, Ross , Jeramiah, Ross , Jeramiah, Patience, Kaylie, Kamden, Ross , Jeramiah, Helen, Jeramiah, Ross , Tommy, Kamden, Jeramiah, Ross , Yusuf, Jeramiah, Patience, Kaylie, Ross , Jeramiah, Yusuf, Madalyn, Kaylie, Madalyn, Patience, Thomas, Helen, Ross , Yusuf, Kamden, Kamden, Madalyn, Patience, Patience, Madalyn, Tommy, Kamden, Yusuf, Yusuf, Patience, Thomas, Kaylie, Yusuf, Kaylie, Kamden, Patience, Tommy, Ross , Kaylie, Yusuf, Thomas, Yusuf, Kamden, Kamden, Jeramiah, Yusuf, Madalyn, Tommy, Kamden, Ross , Helen, Ross , Ross , Patience, Yusuf, Ross , Helen, Jeramiah, Kamden, Kamden, Patience, Patience, Kaylie, Kamden, Madalyn, Patience, Kamden, Tommy, Jeramiah, Yusuf, Thomas, Ross , Jeramiah, Ross , Patience, Kamden, Yusuf, Tommy, Ross , Kaylie, Jeramiah, Jeramiah, Kamden, Tommy, Kamden, Ross , Thomas, Madalyn, Ross , Thomas, Kaylie, Madalyn, Thomas, Ross , Ross , Helen, Jeramiah, Patience, Ross , Thomas, Madalyn, Patience, Helen, Yusuf, Helen, Kaylie, Tommy, Helen, Jeramiah, Patience, Madalyn, Yusuf, Jeramiah, Ross , Patience, Kaylie, Helen, Kaylie, Madalyn, Madalyn, Thomas, Thomas, Kamden, Patience, Jeramiah, Ross , Patience, Tommy, Patience, Tommy, Madalyn, Tommy, Helen, Helen, Kaylie, Ross , Patience, Madalyn, Ross , Yusuf, Thomas, Tommy, Helen, Ross , Helen, Patience, Yusuf, Yusuf, Yusuf, Kamden, Tommy, Thomas, Yusuf, Thomas, Thomas, Tommy, Thomas, Jeramiah, Patience, Jeramiah, Madalyn, Thomas, Tommy, Jeramiah, Helen, Yusuf, Kaylie, Tommy, Helen, Kamden, Yusuf, Jeramiah, Yusuf, Thomas, Patience, Helen, Kaylie, Madalyn, Yusuf, Jeramiah, Kaylie, Madalyn, Madalyn, Thomas, Ross , Kaylie, Tommy, Ross , Patience, Kaylie, Kamden, Tommy, Kamden, Thomas, Kamden, Tommy, Kamden, Patience, Yusuf, Thomas, Kamden, Patience, Jeramiah, Madalyn, Helen, Kamden, Thomas, Yusuf, Kaylie, Kamden, Ross , Jeramiah, Yusuf, Kaylie, Helen, Kamden, Kaylie, Helen, Yusuf, Jeramiah, Patience, Kamden, Madalyn, Madalyn, Tommy, Kamden, Kamden, Patience, Kaylie, Thomas, Kaylie, Tommy, Helen, Helen, Madalyn, Tommy, Yusuf, Kamden, Ross , Thomas, Kaylie, Tommy, Ross , Yusuf, Kamden, Patience, Thomas, Kaylie, Tommy, Madalyn, Patience, Patience, Patience, Tommy, Helen, Madalyn, Ross , Jeramiah, Thomas, Jeramiah, Helen, Helen, Helen, Madalyn, Ross , Kamden, Ross , Ross , Jeramiah, Thomas, Kamden, Madalyn, Patience, Patience, Madalyn, Jeramiah, Yusuf, Jeramiah, Madalyn, Helen, Ross , Kaylie, Helen, Tommy, Thomas, Madalyn, Helen, Kaylie, Jeramiah, Thomas, Kamden, Jeramiah, Yusuf, Kamden, Ross , Jeramiah, Tommy, Tommy, Thomas, Kaylie, Kaylie, Patience, Yusuf, Jeramiah, Kamden, Kamden, Thomas, Thomas, Thomas, Yusuf, Madalyn, Ross , Kamden, Madalyn, Patience, Helen, Tommy, Jeramiah, Tommy, Helen, Kaylie, Yusuf, Helen, Madalyn, Kamden, Patience, Jeramiah, Thomas, Kamden, Madalyn, Tommy, Madalyn, Kaylie, Tommy, Madalyn, Kaylie, Helen, Helen, Yusuf, Patience, Helen, Helen, Yusuf, Thomas, Jeramiah, Thomas, Ross , Tommy, Jeramiah, Mada-

lyn, Helen, Yusuf, Patience, Helen, Madalyn, Madalyn, Thomas, Ross , Helen, Helen, Tommy, Patience, Kamden, Madalyn, Thomas, Yusuf, Yusuf, Thomas, Thomas, Patience, Patience, Tommy, Patience, Thomas, Thomas, Kamden, Ross , Kamden, Kaylie, Yusuf, Kaylie, Thomas, Patience, Kamden, Kamden, Jeramiah, Madalyn, Ross , Kamden, Ross , Yusuf, Tommy, Tommy, Ross , Yusuf, Jeramiah, Madalyn, Yusuf, Helen, Madalyn, Kamden, Helen, Helen, Jeramiah, Helen, Yusuf, Thomas, Kaylie, Kamden, Helen, Jeramiah, Patience, Kaylie, Yusuf, Kamden, Thomas, Tommy, Jeramiah, Patience, Ross , Ross , Yusuf, Helen, Ross , Tommy, Ross , Patience, Madalyn, Madalyn

The Raw data 04

Kamden, Tommy, Patience, Madalyn, Kamden, Patience, Yusuf, Kaylie, Yusuf, Kamden, Ross , Thomas, Tommy, Yusuf, Ross , Kamden, Jeramiah, Tommy, Kamden, Ross , Tommy, Kamden, Madalyn, Patience, Kaylie, Patience, Thomas, Helen, Ross , Kamden, Ross , Kaylie, Yusuf, Ross , Patience, Patience, Patience, Madalyn, Jeramiah, Tommy, Kaylie, Thomas, Ross , Tommy, Tommy, Yusuf, Tommy, Yusuf, Jeramiah, Tommy, Kaylie, Yusuf, Patience, Madalyn, Jeramiah, Ross , Yusuf, Thomas, Tommy, Ross , Jeramiah, Ross , Jeramiah, Patience, Kaylie, Kamden, Ross , Jeramiah, Helen, Jeramiah, Ross , Tommy, Kamden, Jeramiah, Ross , Yusuf, Jeramiah, Patience, Kaylie, Ross , Jeramiah, Yusuf, Madalyn, Kaylie, Madalyn, Patience, Thomas, Helen, Ross , Yusuf, Kamden, Kamden, Madalyn, Patience, Patience, Madalyn, Tommy, Kamden, Yusuf, Yusuf, Patience, Thomas, Kaylie, Yusuf, Kaylie, Kamden, Patience, Tommy, Ross , Kaylie, Yusuf, Thomas, Yusuf, Kamden, Kamden, Jeramiah, Yusuf, Madalyn, Tommy, Kamden, Ross , Helen, Ross , Ross , Patience, Yusuf, Ross , Helen, Jeramiah, Kamden, Kamden, Patience, Patience, Kaylie, Kamden, Madalyn, Patience, Kamden, Tommy, Jeramiah, Yusuf, Thomas, Ross , Jeramiah, Ross , Patience, Kamden, Yusuf, Tommy, Ross , Kaylie, Jeramiah, Jeramiah, Kamden, Tommy, Kamden, Ross , Thomas, Madalyn, Ross , Thomas, Kaylie, Madalyn, Thomas, Ross , Ross , Helen, Jeramiah, Patience, Ross , Thomas, Madalyn, Patience, Helen, Yusuf, Helen, Kaylie, Tommy, Helen, Jeramiah, Patience, Madalyn, Yusuf, Jeramiah, Ross , Patience, Kaylie, Helen, Kaylie, Madalyn, Madalyn, Thomas, Thomas, Kamden, Patience, Jeramiah, Ross , Patience, Tommy, Patience, Tommy, Madalyn, Tommy, Helen, Helen, Kaylie, Ross , Patience, Madalyn, Ross , Yusuf, Thomas, Tommy, Helen, Ross , Helen, Patience, Yusuf, Yusuf, Yusuf, Kamden, Tommy, Thomas, Yusuf, Thomas, Thomas, Tommy, Thomas, Jeramiah, Patience, Jeramiah, Madalyn, Thomas, Tommy, Jeramiah, Helen, Yusuf, Kaylie, Tommy, Helen, Kamden, Yusuf, Jeramiah, Yusuf, Thomas, Patience, Helen, Kaylie, Madalyn, Yusuf, Jeramiah, Kaylie, Madalyn, Madalyn, Thomas, Ross , Kaylie, Tommy, Ross , Patience, Kaylie, Kamden, Tommy, Kamden, Thomas, Kamden, Tommy, Kamden, Patience, Yusuf, Thomas, Kamden, Patience, Jeramiah, Madalyn, Helen, Kamden, Thomas, Yusuf, Kaylie, Kamden, Ross , Jeramiah, Yusuf, Kaylie, Helen, Kamden, Kaylie, Helen, Yusuf, Jeramiah, Patience, Kamden, Madalyn, Madalyn, Tommy, Kamden, Kamden, Patience, Kaylie, Thomas, Kaylie, Tommy, Helen, Helen, Madalyn, Tommy, Yusuf, Kamden, Ross , Thomas, Kaylie, Tommy, Ross , Yusuf, Kamden, Patience, Thomas, Kaylie, Tommy, Madalyn, Patience, Patience, Patience, Tommy, Helen, Madalyn, Ross , Jeramiah, Thomas, Jeramiah, Helen, Helen, Helen, Madalyn, Ross , Kamden, Ross , Ross , Jeramiah, Thomas, Kamden, Madalyn, Patience, Patience, Madalyn, Jeramiah, Yusuf, Jeramiah, Madalyn, Helen, Ross , Kaylie, Helen, Tommy, Thomas, Madalyn, Helen, Kaylie, Jeramiah, Thomas, Kamden, Jeramiah, Yusuf, Kamden, Ross , Jeramiah, Tommy, Tommy, Thomas, Kaylie, Kaylie, Patience, Yusuf, Jeramiah, Kamden, Kamden, Thomas, Thomas, Thomas, Yusuf, Madalyn, Ross , Kamden, Madalyn, Patience, Helen, Tommy, Jeramiah, Tommy, Helen, Kaylie, Yusuf, Helen, Madalyn, Kamden, Patience, Jeramiah, Thomas, Kamden, Madalyn, Tommy, Madalyn, Kaylie, Tommy, Madalyn, Kaylie, Helen, Helen, Yusuf, Patience, Helen, Helen, Yusuf, Thomas, Jeramiah, Thomas, Ross , Tommy, Jeramiah, Mada-

lyn, Helen, Yusuf, Patience, Helen, Madalyn, Madalyn, Thomas, Ross , Helen, Helen, Tommy, Patience, Kamden, Madalyn, Thomas, Yusuf, Yusuf, Thomas, Thomas, Patience, Patience, Tommy, Patience, Thomas, Thomas, Kamden, Ross , Kamden, Kaylie, Yusuf, Kaylie, Thomas, Patience, Kamden, Kamden, Jeramiah, Madalyn, Ross , Kamden, Ross , Yusuf, Tommy, Tommy, Ross , Yusuf, Jeramiah, Madalyn, Yusuf, Helen, Madalyn, Kamden, Helen, Helen, Jeramiah, Helen, Yusuf, Thomas, Kaylie, Kamden, Helen, Jeramiah, Patience, Kaylie, Yusuf, Kamden, Thomas, Tommy, Jeramiah, Patience, Ross , Ross , Yusuf, Helen, Ross , Tommy, Ross , Patience, Madalyn, Madalyn

Two Groups

Part 1 of 2 (250 words)

kamden patience kamden yusuf yusuf ross tommy ross jeramiah kamden tommy madalyn kaylie thomas ross ross yusuf patience patience jeramiah kaylie ross tommy tommy jeramiah kaylie patience jeramiah yusuf tommy jeramiah jeramiah kaylie ross helen ross kamden ross jeramiah kaylie jeramiah madalyn madalyn thomas ross kamden madalyn patience tommy yusuf patience kaylie kaylie patience ross yusuf yusuf kamden yusuf tommy ross ross patience ross jeramiah kamden patience kamden patience tommy yusuf ross ross kamden tommy kaylie jeramiah tommy ross madalyn thomas madalyn ross helen patience thomas patience yusuf kaylie helen patience yusuf ross kaylie kaylie madalyn thomas patience ross tommy tommy tommy helen ross madalyn yusuf tommy ross patience yusuf kamden thomas thomas tommy jeramiah jeramiah thomas jeramiah yusuf tommy kamden jeramiah thomas helen madalyn jeramiah madalyn thomas kaylie ross kaylie tommy thomas tommy patience thomas patience madalyn kamden yusuf kamden jeramiah kaylie kamden helen jeramiah kamden madalyn kamden patience thomas tommy helen tommy kamden thomas tommy yusuf patience kaylie madalyn patience tommy madalyn jeramiah jeramiah helen madalyn kamden ross thomas madalyn patience jeramiah jeramiah helen kaylie tommy madalyn kaylie thomas jeramiah kamden jeramiah tommy kaylie patience jeramiah kamden thomas yusuf ross madalyn helen jeramiah helen yusuf madalyn patience thomas madalyn madalyn tommy kaylie helen patience helen thomas thomas tommy madalyn yusuf helen madalyn ross helen patience madalyn yusuf thomas patience tommy thomas kamden kamden yusuf thomas kamden jeramiah ross ross tommy ross jeramiah yusuf madalyn helen jeramiah yusuf kaylie helen patience yusuf thomas jeramiah ross yusuf ross ross madalyn

Part 2 of 2 (250 words)

tommy madalyn patience kaylie kamden thomas yusuf kamden tommy ross kamden patience
patience helen kamden kaylie ross patience madalyn tommy thomas tommy yusuf yusuf tommy
yusuf madalyn ross thomas ross ross patience kamden jeramiah jeramiah tommy jeramiah
yusuf patience ross yusuf kaylie patience helen yusuf kamden patience madalyn kamden yusuf
thomas yusuf kamden tommy kaylie thomas kamden jeramiah madalyn kamden helen ross
yusuf helen kamden patience kaylie madalyn kamden jeramiah thomas jeramiah patience yusuf
ross jeramiah kamden kamden thomas ross kaylie thomas ross jeramiah ross madalyn helen
helen tommy jeramiah madalyn jeramiah patience helen madalyn thomas kamden jeramiah
patience patience madalyn helen kaylie patience ross thomas helen helen yusuf yusuf tommy
yusuf thomas thomas patience madalyn tommy helen kaylie helen yusuf yusuf patience kaylie
yusuf kaylie madalyn ross tommy patience kamden kamden kamden kamden yusuf kamden
jeramiah helen thomas kaylie ross yusuf helen kaylie yusuf patience madalyn tommy kamden
kaylie kaylie helen madalyn yusuf ross kaylie ross kamden thomas tommy patience patience
helen ross thomas helen helen ross ross jeramiah kamden patience madalyn yusuf madalyn
ross helen thomas helen jeramiah kamden yusuf ross tommy thomas kaylie yusuf kamden
thomas thomas madalyn kamden patience tommy tommy kaylie helen kamden jeramiah kam-
den tommy kaylie madalyn helen yusuf helen yusuf jeramiah ross jeramiah helen patience
madalyn thomas helen tommy kamden thomas yusuf thomas patience patience thomas ross
kaylie kaylie patience kamden madalyn kamden yusuf tommy yusuf madalyn helen kamden he-
len helen thomas kamden jeramiah kaylie kamden tommy patience ross helen tommy patience
madalyn

Four Groups

Part 1 of 4 (125 words)

kamden kamden yusuf tommy jeramiah tommy kaylie ross yusuf patience kaylie tommy
jeramiah patience yusuf jeramiah kaylie helen kamden jeramiah jeramiah madalyn ross mada-
lyn tommy patience kaylie ross yusuf yusuf ross patience jeramiah patience patience yusuf
ross tommy jeramiah ross thomas ross patience patience kaylie patience ross kaylie thomas
ross tommy helen madalyn tommy patience kamden thomas jeramiah thomas yusuf kamden
thomas madalyn madalyn kaylie kaylie thomas patience patience kamden kamden kaylie he-
len kamden kamden thomas helen kamden tommy patience madalyn tommy jeramiah helen
kamden thomas patience jeramiah kaylie madalyn thomas kamden tommy patience kamden
yusuf madalyn jeramiah yusuf patience madalyn tommy helen helen thomas madalyn helen
ross patience yusuf patience thomas kamden thomas jeramiah ross ross yusuf helen yusuf helen
yusuf jeramiah yusuf ross

Part 2 of 4 (125 words)

tommy patience kamden yusuf tommy kamden patience kamden ross madalyn thomas yusuf
tommy madalyn thomas ross kamden jeramiah jeramiah patience yusuf patience yusuf pa-
tience kamden thomas kamden kaylie kamden madalyn helen yusuf kamden kaylie kamden
thomas patience ross kamden thomas kaylie ross ross helen tommy madalyn patience mada-
lyn kamden patience madalyn kaylie ross helen yusuf tommy thomas patience tommy kaylie
yusuf patience yusuf madalyn tommy kamden kamden yusuf jeramiah thomas ross helen yusuf
madalyn kamden kaylie madalyn ross ross thomas patience helen thomas helen ross kamden
madalyn madalyn helen helen kamden ross thomas yusuf thomas madalyn patience tommy
helen jeramiah tommy madalyn yusuf yusuf ross helen madalyn helen kamden yusuf patience
thomas kaylie patience madalyn yusuf yusuf helen helen thomas jeramiah kamden patience
helen patience

Part 3 of 4 (125 words)

patience yusuf ross ross kamden madalyn thomas ross patience jeramiah ross tommy kaylie
jeramiah tommy jeramiah ross ross ross kaylie madalyn thomas kamden patience yusuf kaylie
patience yusuf kamden tommy ross ross kamden kamden tommy ross kamden kaylie tommy
madalyn madalyn helen thomas yusuf helen yusuf kaylie madalyn patience tommy tommy ross
yusuf ross yusuf thomas tommy jeramiah jeramiah tommy jeramiah helen jeramiah thomas ross
tommy tommy thomas madalyn yusuf jeramiah kamden jeramiah madalyn patience tommy
tommy thomas yusuf kaylie patience madalyn jeramiah madalyn ross madalyn jeramiah helen
tommy kaylie jeramiah jeramiah kaylie jeramiah thomas ross helen helen madalyn thomas
madalyn kaylie patience thomas tommy yusuf madalyn helen madalyn thomas tommy kam-
den yusuf kamden ross tommy jeramiah madalyn jeramiah kaylie patience thomas ross ross
madalyn

Part 4 of 4 (125 words)

madalyn kaylie thomas kamden ross patience helen kaylie patience tommy tommy yusuf yusuf
ross ross patience jeramiah tommy yusuf ross kaylie helen kamden madalyn yusuf yusuf tommy
thomas jeramiah kamden ross helen patience madalyn jeramiah jeramiah yusuf jeramiah kam-
den ross thomas jeramiah madalyn helen jeramiah jeramiah helen thomas jeramiah patience
helen patience thomas helen yusuf yusuf thomas madalyn helen helen yusuf kaylie kaylie ross
patience kamden kamden kamden helen kaylie yusuf kaylie patience tommy kaylie helen yusuf
kaylie kamden tommy patience ross helen ross jeramiah patience yusuf ross thomas jeramiah
yusuf tommy kaylie kamden thomas kamden tommy kaylie kamden kamden kaylie helen he-
len jeramiah jeramiah patience thomas tommy thomas thomas patience ross kaylie kamden
kamden tommy madalyn kamden helen kamden kaylie tommy ross tommy madalyn

Five Groups

Part 1 of 5 (100 words)

kamden patience ross kamden tommy patience ross patience kaylie yusuf kaylie ross jeramiah
kamden ross yusuf jeramiah patience kamden madalyn patience kamden yusuf jeramiah ross
yusuf kamden madalyn yusuf patience kaylie kamden thomas ross thomas helen patience
patience madalyn jeramiah tommy kaylie yusuf helen kamden thomas jeramiah helen kamden
patience jeramiah ross kaylie kamden thomas helen kamden helen jeramiah tommy thomas
madalyn thomas kamden madalyn helen jeramiah ross thomas madalyn helen thomas thomas
ross kaylie kamden yusuf patience helen kamden madalyn madalyn patience jeramiah madalyn
madalyn helen thomas patience thomas yusuf kamden ross yusuf madalyn helen helen kamden
ross tommy

Part 2 of 5 (100 words)

tommy yusuf thomas jeramiah kamden thomas kaylie patience thomas tommy yusuf yusuf ross
ross tommy jeramiah yusuf thomas kamden tommy thomas patience thomas yusuf helen ross
patience patience thomas kamden jeramiah ross kaylie helen madalyn kaylie madalyn kaylie
thomas ross madalyn ross thomas patience tommy tommy madalyn yusuf yusuf helen kaylie
kaylie kamden tommy kamden kamden ross kamden patience kamden kaylie tommy kaylie pa-
tience patience madalyn helen kamden kamden jeramiah ross madalyn kamden jeramiah kaylie
kamden madalyn helen kaylie patience tommy kaylie helen thomas helen madalyn tommy yusuf
patience kamden kaylie jeramiah yusuf jeramiah kamden yusuf jeramiah thomas ross ross

Part 3 of 5 (100 words)

patience kaylie tommy tommy madalyn helen yusuf madalyn ross yusuf patience thomas
jeramiah jeramiah kamden patience madalyn helen madalyn kamden kaylie tommy yusuf
madalyn ross helen patience kamden ross yusuf jeramiah thomas madalyn jeramiah patience
tommy yusuf helen thomas patience tommy patience tommy yusuf thomas thomas thomas
kaylie jeramiah kaylie madalyn tommy tommy kamden patience thomas jeramiah kaylie kam-
den kamden tommy yusuf tommy thomas patience ross helen ross madalyn yusuf kaylie helen
jeramiah tommy patience thomas ross tommy yusuf jeramiah madalyn helen helen ross yusuf
thomas patience yusuf tommy ross thomas madalyn tommy madalyn helen thomas patience
tommy yusuf patience

Part 4 of 5 (100 words)

madalyn yusuf yusuf kamden patience ross ross jeramiah tommy jeramiah madalyn tommy patience helen jeramiah kaylie kaylie ross patience yusuf yusuf ross kamden tommy ross jeramiah kaylie tommy jeramiah tommy kamden madalyn thomas patience helen helen jeramiah kaylie kamden tommy helen madalyn helen yusuf yusuf jeramiah tommy tommy yusuf madalyn madalyn ross kamden patience jeramiah yusuf yusuf helen madalyn patience helen kamden ross kaylie patience jeramiah helen ross patience jeramiah helen kaylie yusuf tommy yusuf thomas kamden jeramiah helen thomas kaylie helen yusuf tommy patience ross kamden thomas patience kamden patience ross tommy yusuf helen kaylie kaylie jeramiah helen madalyn

Part 5 of 5 (100 words)

kamden kamden ross ross kaylie kamden patience tommy tommy tommy jeramiah ross kaylie
jeramiah ross ross madalyn yusuf patience yusuf kaylie kaylie kamden kamden patience kam-
den kamden jeramiah ross ross tommy ross ross ross yusuf jeramiah ross madalyn patience
patience helen ross ross yusuf thomas patience jeramiah helen thomas yusuf thomas patience
thomas yusuf madalyn kaylie kaylie yusuf madalyn kaylie helen ross yusuf tommy tommy
thomas madalyn jeramiah patience madalyn tommy jeramiah kamden thomas jeramiah thomas
madalyn tommy madalyn kamden tommy yusuf thomas jeramiah helen helen madalyn thomas
thomas kaylie kamden kamden ross helen jeramiah kamden yusuf patience ross madalyn

Ten Groups

Part 1 of 10 (50 words)

kamden ross tommy ross kaylie kaylie jeramiah ross jeramiah kamden patience yusuf ross
kamden yusuf kaylie thomas thomas patience madalyn tommy yusuf kamden jeramiah kamden
jeramiah kaylie thomas kamden jeramiah thomas thomas madalyn jeramiah thomas helen
thomas kaylie yusuf helen madalyn patience madalyn helen patience yusuf ross madalyn helen
ross

Part 2 of 10 (50 words)

tommy thomas kamden kaylie thomas yusuf ross tommy yusuf kamden thomas thomas helen
patience thomas jeramiah kaylie madalyn madalyn thomas madalyn thomas tommy madalyn
yusuf kaylie kamden kamden ross patience kaylie kaylie patience helen kamden ross kamden
kaylie madalyn kaylie tommy helen helen tommy patience kaylie yusuf kamden jeramiah ross

Part 3 of 10 (50 words)

patience tommy madalyn yusuf ross patience jeramiah kamden madalyn madalyn kaylie yusuf
ross patience ross jeramiah madalyn patience yusuf thomas tommy tommy thomas thomas
jeramiah madalyn tommy patience jeramiah kamden tommy tommy patience helen madalyn
kaylie jeramiah patience ross yusuf madalyn helen yusuf patience tommy thomas tommy helen
patience yusuf

Part 4 of 10 (50 words)

madalyn yusuf patience ross tommy madalyn patience jeramiah kaylie patience yusuf kamden
ross kaylie jeramiah kamden thomas helen jeramiah kamden helen helen yusuf tommy yusuf
madalyn kamden jeramiah yusuf madalyn helen ross patience helen patience helen yusuf yusuf
kamden helen kaylie yusuf patience kamden patience patience tommy helen kaylie helen

Part 5 of 10 (50 words)

kamden ross kaylie patience tommy jeramiah kaylie ross madalyn patience kaylie kamden
patience kamden ross tommy ross yusuf ross patience helen ross thomas jeramiah thomas
thomas thomas madalyn kaylie madalyn helen yusuf tommy madalyn patience tommy kamden
jeramiah madalyn madalyn tommy thomas helen madalyn thomas kamden ross jeramiah yusuf
ross

Part 6 of 10 (50 words)

patience kamden patience patience yusuf ross kamden yusuf patience madalyn kamden
jeramiah yusuf madalyn patience kamden ross helen patience jeramiah kaylie helen thomas
helen patience ross kamden helen helen tommy madalyn kamden helen ross madalyn thomas
ross kamden patience kamden madalyn jeramiah madalyn thomas thomas kamden yusuf
helen kamden tommy

Part 7 of 10 (50 words)

yusuf jeramiah thomas patience tommy yusuf ross jeramiah thomas tommy patience yusuf
ross patience kamden ross helen kaylie kaylie ross ross patience tommy yusuf helen kaylie
tommy kamden kamden kamden tommy patience madalyn kamden jeramiah madalyn jeramiah
kamden helen patience kaylie thomas madalyn yusuf kamden jeramiah jeramiah yusuf thomas
ross

Part 8 of 10 (50 words)

kaylie tommy helen madalyn yusuf thomas jeramiah patience helen kamden tommy madalyn
helen kamden yusuf thomas jeramiah tommy helen patience patience yusuf thomas kaylie
kaylie tommy kamden thomas kaylie kamden yusuf thomas ross ross yusuf helen tommy thomas
tommy jeramiah helen ross thomas yusuf ross madalyn madalyn thomas tommy patience

Part 9 of 10 (50 words)

yusuf kamden ross jeramiah jeramiah tommy helen kaylie ross yusuf ross tommy jeramiah
tommy tommy madalyn patience helen kaylie tommy madalyn yusuf jeramiah tommy madalyn
ross patience yusuf helen patience kamden kaylie jeramiah ross jeramiah kaylie tommy thomas
jeramiah thomas helen tommy ross thomas kamden ross yusuf kaylie jeramiah madalyn

Part 10 of 10 (50 words)

kamden ross kamden tommy tommy ross jeramiah ross yusuf yusuf kaylie kamden kamden
jeramiah ross ross ross jeramiah madalyn patience ross yusuf patience helen yusuf patience
yusuf kaylie yusuf kaylie ross tommy thomas jeramiah madalyn jeramiah thomas thomas
tommy kamden yusuf jeramiah helen thomas kaylie kamden helen kamden patience madalyn

Twenty Groups

Part 1 of 20 (25 words)

kamden tommy kaylie jeramiah jeramiah patience ross yusuf thomas patience tommy kamden
kamden kaylie kamden thomas madalyn thomas thomas thomas yusuf madalyn madalyn patience ross
helen

Part 2 of 20 (25 words)

tommy kamden thomas ross yusuf thomas helen thomas kaylie madalyn madalyn tommy yusuf
kamden ross kaylie patience kamden kamden madalyn tommy helen patience yusuf jeramiah

Part 3 of 20 (25 words)

patience madalyn ross jeramiah madalyn kaylie ross ross madalyn yusuf tommy thomas
jeramiah tommy jeramiah tommy patience madalyn jeramiah ross madalyn yusuf tommy
tommy patience

Part 4 of 20 (25 words)

madalyn patience tommy patience kaylie yusuf ross jeramiah thomas jeramiah helen yusuf
yusuf kamden yusuf helen patience patience yusuf kamden kaylie patience patience tommy
kaylie

Part 5 of 20 (25 words)

kamden kaylie tommy kaylie madalyn kaylie patience ross ross ross helen thomas thomas
thomas kaylie helen tommy patience kamden madalyn tommy helen thomas ross yusuf

Part 6 of 20 (25 words)

patience patience yusuf kamden patience kamden yusuf patience ross patience kaylie thomas
patience kamden helen madalyn helen madalyn ross patience madalyn madalyn thomas yusuf
kamden

Part 7 of 20 (25 words)

yusuf thomas tommy ross thomas patience ross kamden helen kaylie ross tommy helen tommy
kamden tommy madalyn jeramiah jeramiah helen kaylie madalyn kamden jeramiah thomas

Part 8 of 20 (25 words)

kaylie helen yusuf jeramiah helen tommy helen yusuf jeramiah helen patience thomas kaylie
kamden kaylie yusuf ross yusuf tommy tommy helen thomas ross madalyn tommy

Part 9 of 20 (25 words)

yusuf ross jeramiah helen ross ross jeramiah tommy patience kaylie madalyn jeramiah madalyn
patience helen kamden jeramiah jeramiah tommy jeramiah helen ross kamden yusuf jeramiah

Part 10 of 20 (25 words)

kamden kamden tommy jeramiah yusuf kaylie kamden ross ross madalyn ross patience yusuf
yusuf yusuf ross thomas madalyn thomas tommy yusuf helen kaylie helen patience

Part 11 of 20 (25 words)

ross ross kaylie ross kamden yusuf kamden kaylie thomas madalyn yusuf jeramiah jeramiah
thomas jeramiah thomas jeramiah helen kaylie helen patience helen yusuf madalyn ross

Part 12 of 20 (25 words)

thomas kaylie yusuf tommy kamden thomas patience jeramiah madalyn thomas thomas mada-
lyn kaylie kamden patience kaylie helen ross kaylie kaylie helen tommy kaylie kamden ross

Part 13 of 20 (25 words)

tommy yusuf patience kamden madalyn yusuf patience jeramiah patience thomas tommy
thomas madalyn patience kamden tommy helen kaylie patience yusuf helen patience thomas
helen yusuf

Part 14 of 20 (25 words)

yusuf ross madalyn jeramiah patience kamden kaylie kamden helen kamden helen tommy
madalyn jeramiah madalyn ross helen helen yusuf helen yusuf kamden patience helen helen

Part 15 of 20 (25 words)

ross patience jeramiah ross patience kamden kamden tommy yusuf patience ross jeramiah
thomas madalyn madalyn yusuf madalyn tommy jeramiah madalyn thomas madalyn kamden
jeramiah ross

Part 16 of 20 (25 words)

kamden patience ross yusuf madalyn jeramiah madalyn kamden helen jeramiah helen helen ross
helen tommy kamden ross thomas kamden kamden jeramiah thomas kamden helen tommy

Part 17 of 20 (25 words)

jeramiah patience yusuf jeramiah tommy yusuf patience ross kaylie ross patience yusuf kaylie
kamden kamden patience kamden madalyn kamden patience thomas yusuf jeramiah yusuf
ross

Part 18 of 20 (25 words)

tommy madalyn thomas patience kamden madalyn kamden thomas tommy patience yusuf
kaylie tommy thomas kamden thomas ross helen thomas jeramiah ross yusuf madalyn thomas
patience

Part 19 of 20 (25 words)

kamden jeramiah tommy kaylie yusuf tommy tommy madalyn helen tommy yusuf tommy ross
yusuf patience kaylie ross kaylie thomas thomas tommy thomas ross kaylie madalyn

Part 20 of 20 (25 words)

ross tommy ross ross yusuf kamden jeramiah ross jeramiah patience yusuf helen patience kaylie
kaylie tommy jeramiah jeramiah thomas kamden jeramiah thomas kamden kamden madalyn