

MapReduce

Classroom example

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

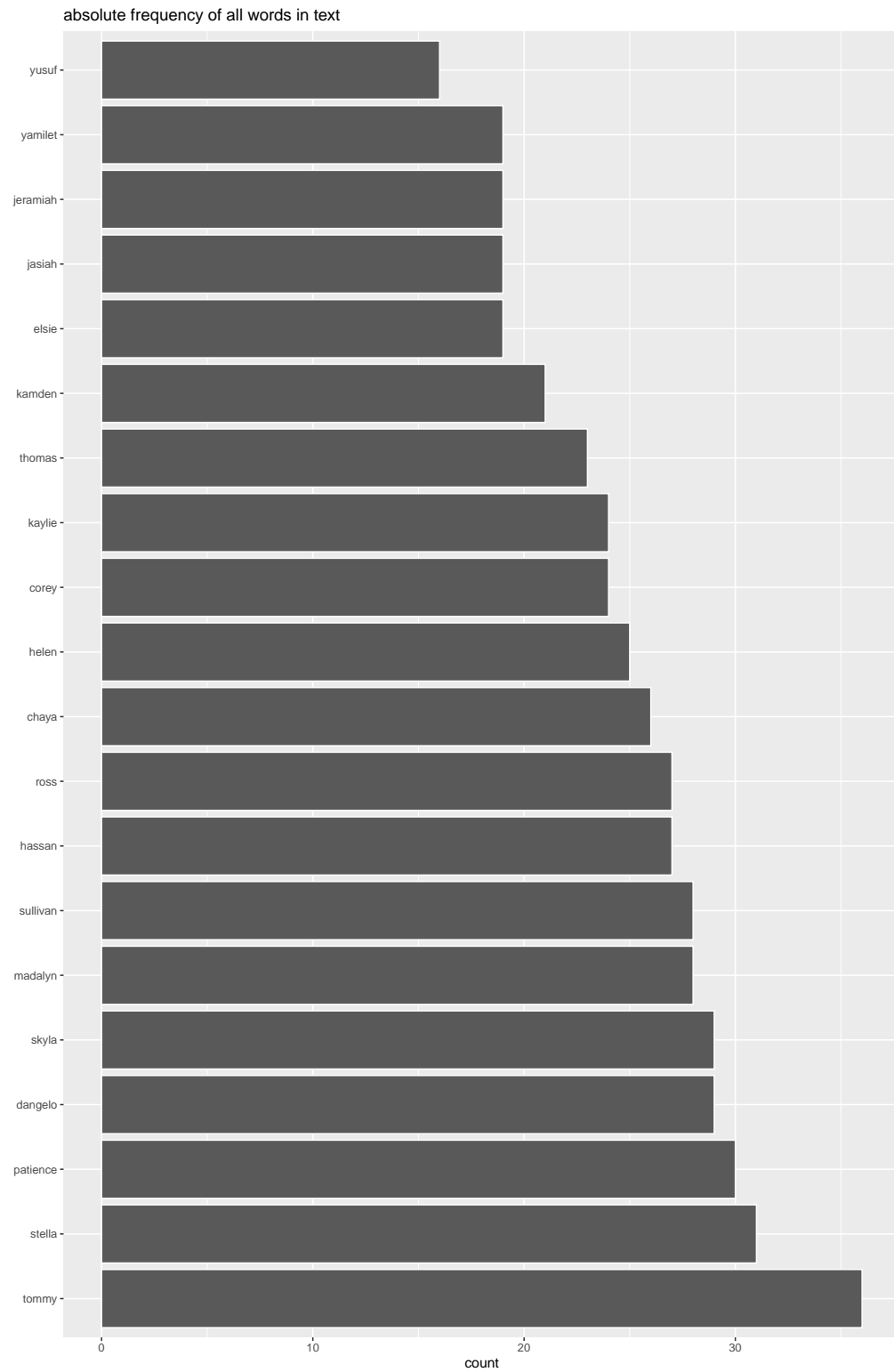
1. print this file
2. give the raw file to 1-4 students, they shall count the words. Measure the time. This is sequential processing.
3. give the chunked file to the respective number of students. There are $n = 2, 4, 5, 10$ groups available. The number of students is the chunk server.
4. one student 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?

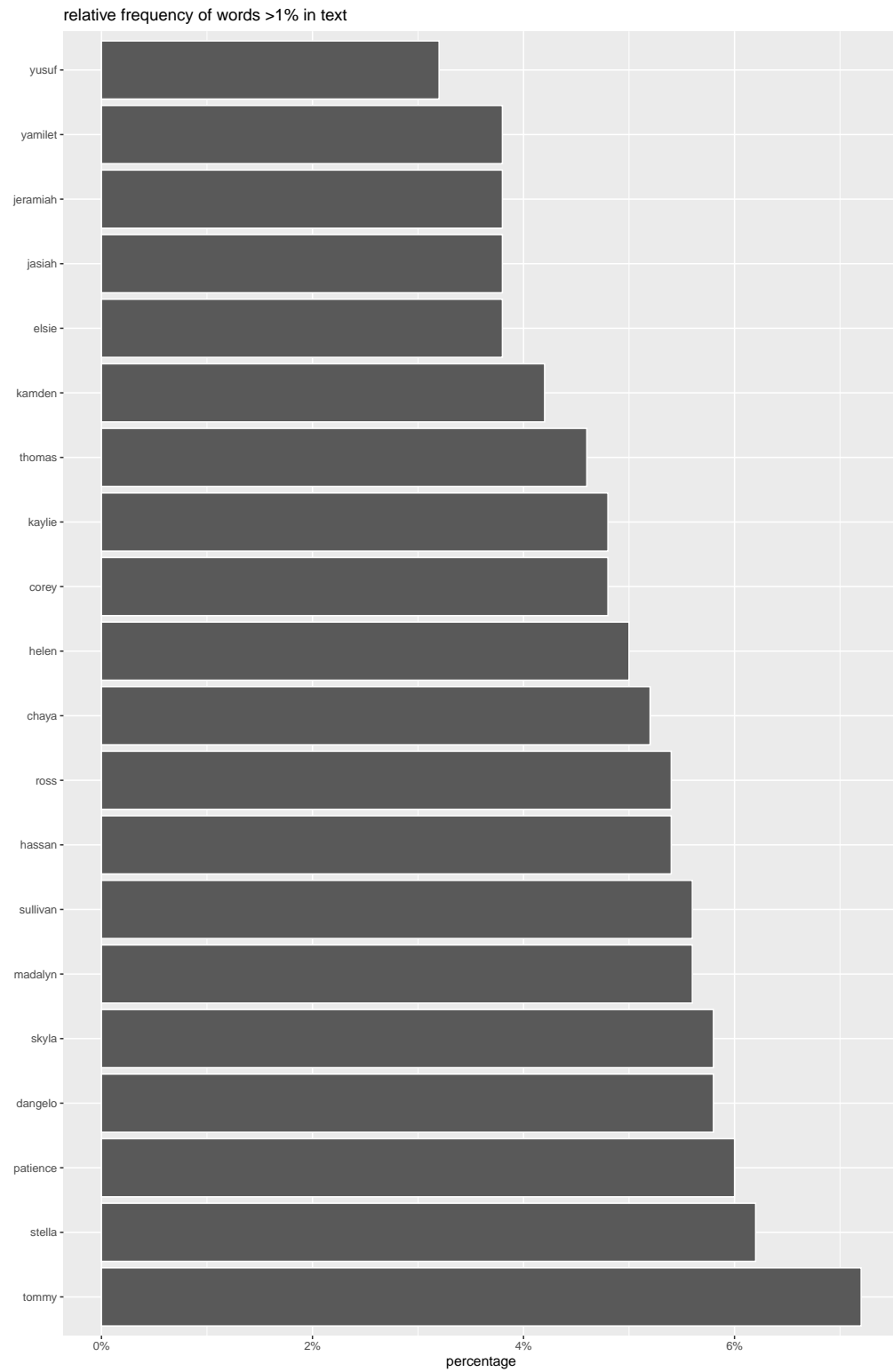
some summary statistics on the raw data

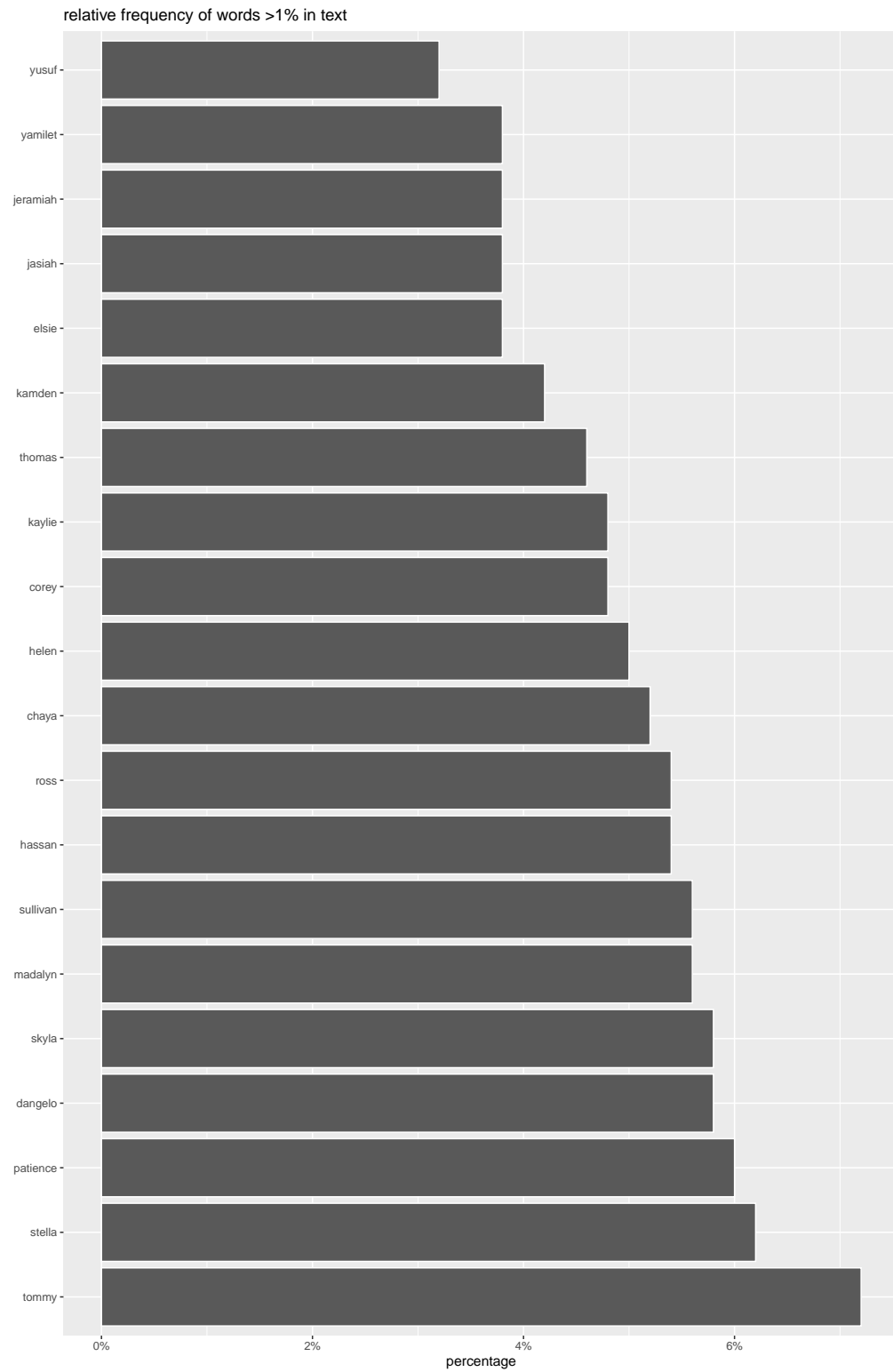
In total there are 500 words available.

| words | Freq | percentage | percentage_round |
|----------|------|------------|------------------|
| tommy | 36 | 7.20% | 7.20% |
| stella | 31 | 6.20% | 6.20% |
| patience | 30 | 6.00% | 6.00% |
| dangelo | 29 | 5.80% | 5.80% |
| skyla | 29 | 5.80% | 5.80% |
| madalyn | 28 | 5.60% | 5.60% |
| sullivan | 28 | 5.60% | 5.60% |
| hassan | 27 | 5.40% | 5.40% |
| ross | 27 | 5.40% | 5.40% |
| chaya | 26 | 5.20% | 5.20% |
| helen | 25 | 5.00% | 5.00% |
| corey | 24 | 4.80% | 4.80% |

| | | | |
|----------|----|-------|-------|
| kaylie | 24 | 4.80% | 4.80% |
| thomas | 23 | 4.60% | 4.60% |
| kamden | 21 | 4.20% | 4.20% |
| elsie | 19 | 3.80% | 3.80% |
| jasiah | 19 | 3.80% | 3.80% |
| jeramiah | 19 | 3.80% | 3.80% |
| yamilet | 19 | 3.80% | 3.80% |
| yusuf | 16 | 3.20% | 3.20% |







The Raw data 01

Yamilet, Sullivan, Yusuf, Tommy, Dangelo, Ross , Yusuf, Kamden, Jeramiah, Elsie, Stella, Sullivan, Helen, Yamilet, Corey, Kaylie, Patience, Ross , Yusuf, Elsie, Kamden, Madalyn, Hassan, Kaylie, Chaya, Elsie, Stella, Sullivan, Jasiah, Thomas, Tommy, Skyla, Kaylie, Dangelo, Madalyn, Kaylie, Yusuf, Thomas, Tommy, Yamilet, Yusuf, Chaya, Elsie, Stella, Stella, Tommy, Ross , Skyla, Kamden, Jeramiah, Yamilet, Hassan, Ross , Chaya, Thomas, Tommy, Skyla, Ross , Patience, Stella, Yusuf, Kaylie, Jasiah, Hassan, Stella, Jeramiah, Patience, Hassan, Kamden, Thomas, Dangelo, Corey, Ross , Corey, Patience, Elsie, Sullivan, Corey, Patience, Skyla, Yusuf, Stella, Yusuf, Ross , Dangelo, Sullivan, Hassan, Stella, Corey, Kamden, Stella, Madalyn, Skyla, Patience, Sullivan, Skyla, Stella, Kamden, Yamilet, Corey, Madalyn, Helen, Kamden, Madalyn, Hassan, Dangelo, Skyla, Sullivan, Corey, Tommy, Yusuf, Jasiah, Madalyn, Tommy, Stella, Hassan, Patience, Elsie, Thomas, Stella, Tommy, Chaya, Sullivan, Madalyn, Elsie, Hassan, Stella, Hassan, Helen, Tommy, Tommy, Ross , Tommy, Yamilet, Elsie, Jasiah, Kaylie, Kaylie, Patience, Skyla, Tommy, Skyla, Jeramiah, Kaylie, Madalyn, Jeramiah, Jasiah, Tommy, Hassan, Stella, Stella, Jeramiah, Stella, Elsie, Kamden, Jeramiah, Sullivan, Skyla, Chaya, Kamden, Yamilet, Helen, Yusuf, Corey, Thomas, Kaylie, Elsie, Sullivan, Ross , Madalyn, Hassan, Dangelo, Patience, Stella, Kamden, Madalyn, Tommy, Hassan, Helen, Chaya, Jeramiah, Dangelo, Chaya, Tommy, Chaya, Yamilet, Patience, Stella, Helen, Chaya, Tommy, Kamden, Patience, Stella, Ross , Ross , Yamilet, Kamden, Corey, Yamilet, Kaylie, Kaylie, Chaya, Ross , Elsie, Dangelo, Hassan, Stella, Ross , Hassan, Tommy, Ross , Sullivan, Hassan, Elsie, Sullivan, Yusuf, Tommy, Jasiah, Sullivan, Thomas, Dangelo, Helen, Yusuf, Yamilet, Kamden, Madalyn, Corey, Ross , Dangelo, Chaya, Tommy, Patience, Ross , Helen, Skyla, Madalyn, Madalyn, Dangelo, Yamilet, Skyla, Thomas, Skyla, Thomas, Stella, Jasiah, Dangelo, Tommy, Thomas, Sullivan, Jeramiah, Ross , Elsie, Hassan, Kaylie, Stella, Dangelo, Chaya, Ross , Thomas, Stella, Corey, Jasiah, Madalyn, Thomas, Dangelo, Helen, Skyla, Yamilet, Ross , Kaylie, Tommy, Patience, Thomas, Patience, Stella, Chaya, Skyla, Thomas, Dangelo, Jasiah, Kamden, Ross , Kaylie, Patience, Jeramiah, Jasiah, Elsie, Tommy, Madalyn, Kamden, Dangelo, Stella, Chaya, Patience, Skyla, Skyla, Madalyn, Kaylie, Thomas, Thomas, Patience, Tommy, Madalyn, Chaya, Skyla, Chaya, Helen, Stella, Yamilet, Jeramiah, Corey, Patience, Madalyn, Chaya, Corey, Sullivan, Chaya, Kaylie, Jasiah, Jeramiah, Skyla, Jeramiah, Chaya, Chaya, Tommy, Sullivan, Sullivan, Thomas, Helen, Jasiah, Jasiah, Helen, Sullivan, Thomas, Corey, Madalyn, Patience, Hassan, Kamden, Hassan, Ross , Sullivan, Chaya, Kamden, Kamden, Dangelo, Corey, Skyla, Hassan, Dangelo, Skyla, Helen, Sullivan, Jasiah, Skyla, Hassan, Dangelo, Helen, Madalyn, Tommy, Skyla, Patience, Patience, Madalyn, Chaya, Skyla, Thomas, Ross , Dangelo, Dangelo, Skyla, Chaya, Jasiah, Hassan, Patience, Sullivan, Jeramiah, Dangelo, Thomas, Helen, Hassan, Helen, Kaylie, Elsie, Skyla, Patience, Tommy, Kaylie, Stella, Jeramiah, Yusuf, Corey, Kaylie, Elsie, Yamilet, Corey, Dangelo, Sullivan, Patience, Kaylie, Yusuf, Helen, Tommy, Corey, Ross , Ross , Sullivan, Madalyn, Jeramiah, Tommy, Yusuf, Yamilet, Tommy, Skyla, Stella, Dangelo, Dangelo, Helen, Elsie, Helen, Chaya, Patience, Ross , Sullivan, Ross , Jasiah, Yamilet, Corey, Jeramiah, Madalyn, Tommy, Patience, Jasiah, Stella, Helen, Corey, Madalyn, Ross , Thomas, Hassan, Chaya, Madalyn, Kaylie, Skyla, Elsie, Mada-

lyn, Corey, Tommy, Kaylie, Patience, Tommy, Jeramiah, Tommy, Patience, Corey, Kamden, Yusuf, Jasiah, Yamilet, Elsie, Yamilet, Hassan, Hassan, Tommy, Dangelo, Kamden, Sullivan, Corey, Dangelo, Sullivan, Stella, Kaylie, Kamden, Jeramiah, Madalyn, Corey, Hassan, Sullivan, Tommy, Skyla, Helen, Tommy, Jasiah, Helen, Dangelo, Thomas, Helen, Chaya, Hassan, Madalyn, Dangelo, Patience, Stella, Kaylie, Helen, Sullivan, Helen, Patience, Thomas

The Raw data 02

Yamilet, Sullivan, Yusuf, Tommy, Dangelo, Ross , Yusuf, Kamden, Jeramiah, Elsie, Stella, Sullivan, Helen, Yamilet, Corey, Kaylie, Patience, Ross , Yusuf, Elsie, Kamden, Madalyn, Hassan, Kaylie, Chaya, Elsie, Stella, Sullivan, Jasiah, Thomas, Tommy, Skyla, Kaylie, Dangelo, Madalyn, Kaylie, Yusuf, Thomas, Tommy, Yamilet, Yusuf, Chaya, Elsie, Stella, Stella, Tommy, Ross , Skyla, Kamden, Jeramiah, Yamilet, Hassan, Ross , Chaya, Thomas, Tommy, Skyla, Ross , Patience, Stella, Yusuf, Kaylie, Jasiah, Hassan, Stella, Jeramiah, Patience, Hassan, Kamden, Thomas, Dangelo, Corey, Ross , Corey, Patience, Elsie, Sullivan, Corey, Patience, Skyla, Yusuf, Stella, Yusuf, Ross , Dangelo, Sullivan, Hassan, Stella, Corey, Kamden, Stella, Madalyn, Skyla, Patience, Sullivan, Skyla, Stella, Kamden, Yamilet, Corey, Madalyn, Helen, Kamden, Madalyn, Hassan, Dangelo, Skyla, Sullivan, Corey, Tommy, Yusuf, Jasiah, Madalyn, Tommy, Stella, Hassan, Patience, Elsie, Thomas, Stella, Tommy, Chaya, Sullivan, Madalyn, Elsie, Hassan, Stella, Hassan, Helen, Tommy, Tommy, Ross , Tommy, Yamilet, Elsie, Jasiah, Kaylie, Kaylie, Patience, Skyla, Tommy, Skyla, Jeramiah, Kaylie, Madalyn, Jeramiah, Jasiah, Tommy, Hassan, Stella, Stella, Jeramiah, Stella, Elsie, Kamden, Jeramiah, Sullivan, Skyla, Chaya, Kamden, Yamilet, Helen, Yusuf, Corey, Thomas, Kaylie, Elsie, Sullivan, Ross , Madalyn, Hassan, Dangelo, Patience, Stella, Kamden, Madalyn, Tommy, Hassan, Helen, Chaya, Jeramiah, Dangelo, Chaya, Tommy, Chaya, Yamilet, Patience, Stella, Helen, Chaya, Tommy, Kamden, Patience, Stella, Ross , Ross , Yamilet, Kamden, Corey, Yamilet, Kaylie, Kaylie, Chaya, Ross , Elsie, Dangelo, Hassan, Stella, Ross , Hassan, Tommy, Ross , Sullivan, Hassan, Elsie, Sullivan, Yusuf, Tommy, Jasiah, Sullivan, Thomas, Dangelo, Helen, Yusuf, Yamilet, Kamden, Madalyn, Corey, Ross , Dangelo, Chaya, Tommy, Patience, Ross , Helen, Skyla, Madalyn, Madalyn, Dangelo, Yamilet, Skyla, Thomas, Skyla, Thomas, Stella, Jasiah, Dangelo, Tommy, Thomas, Sullivan, Jeramiah, Ross , Elsie, Hassan, Kaylie, Stella, Dangelo, Chaya, Ross , Thomas, Stella, Corey, Jasiah, Madalyn, Thomas, Dangelo, Helen, Skyla, Yamilet, Ross , Kaylie, Tommy, Patience, Thomas, Patience, Stella, Chaya, Skyla, Thomas, Dangelo, Jasiah, Kamden, Ross , Kaylie, Patience, Jeramiah, Jasiah, Elsie, Tommy, Madalyn, Kamden, Dangelo, Stella, Chaya, Patience, Skyla, Skyla, Madalyn, Kaylie, Thomas, Thomas, Patience, Tommy, Madalyn, Chaya, Skyla, Chaya, Helen, Stella, Yamilet, Jeramiah, Corey, Patience, Madalyn, Chaya, Corey, Sullivan, Chaya, Kaylie, Jasiah, Jeramiah, Skyla, Jeramiah, Chaya, Chaya, Tommy, Sullivan, Sullivan, Thomas, Helen, Jasiah, Jasiah, Helen, Sullivan, Thomas, Corey, Madalyn, Patience, Hassan, Kamden, Hassan, Ross , Sullivan, Chaya, Kamden, Kamden, Dangelo, Corey, Skyla, Hassan, Dangelo, Skyla, Helen, Sullivan, Jasiah, Skyla, Hassan, Dangelo, Helen, Madalyn, Tommy, Skyla, Patience, Patience, Madalyn, Chaya, Skyla, Thomas, Ross , Dangelo, Dangelo, Skyla, Chaya, Jasiah, Hassan, Patience, Sullivan, Jeramiah, Dangelo, Thomas, Helen, Hassan, Helen, Kaylie, Elsie, Skyla, Patience, Tommy, Kaylie, Stella, Jeramiah, Yusuf, Corey, Kaylie, Elsie, Yamilet, Corey, Dangelo, Sullivan, Patience, Kaylie, Yusuf, Helen, Tommy, Corey, Ross , Ross , Sullivan, Madalyn, Jeramiah, Tommy, Yusuf, Yamilet, Tommy, Skyla, Stella, Dangelo, Dangelo, Helen, Elsie, Helen, Chaya, Patience, Ross , Sullivan, Ross , Jasiah, Yamilet, Corey, Jeramiah, Madalyn, Tommy, Patience, Jasiah, Stella, Helen, Corey, Madalyn, Ross , Thomas, Hassan, Chaya, Madalyn, Kaylie, Skyla, Elsie, Mada-

lyn, Corey, Tommy, Kaylie, Patience, Tommy, Jeramiah, Tommy, Patience, Corey, Kamden, Yusuf, Jasiah, Yamilet, Elsie, Yamilet, Hassan, Hassan, Tommy, Dangelo, Kamden, Sullivan, Corey, Dangelo, Sullivan, Stella, Kaylie, Kamden, Jeramiah, Madalyn, Corey, Hassan, Sullivan, Tommy, Skyla, Helen, Tommy, Jasiah, Helen, Dangelo, Thomas, Helen, Chaya, Hassan, Madalyn, Dangelo, Patience, Stella, Kaylie, Helen, Sullivan, Helen, Patience, Thomas

The Raw data 03

Yamilet, Sullivan, Yusuf, Tommy, Dangelo, Ross , Yusuf, Kamden, Jeramiah, Elsie, Stella, Sullivan, Helen, Yamilet, Corey, Kaylie, Patience, Ross , Yusuf, Elsie, Kamden, Madalyn, Hassan, Kaylie, Chaya, Elsie, Stella, Sullivan, Jasiah, Thomas, Tommy, Skyla, Kaylie, Dangelo, Madalyn, Kaylie, Yusuf, Thomas, Tommy, Yamilet, Yusuf, Chaya, Elsie, Stella, Stella, Tommy, Ross , Skyla, Kamden, Jeramiah, Yamilet, Hassan, Ross , Chaya, Thomas, Tommy, Skyla, Ross , Patience, Stella, Yusuf, Kaylie, Jasiah, Hassan, Stella, Jeramiah, Patience, Hassan, Kamden, Thomas, Dangelo, Corey, Ross , Corey, Patience, Elsie, Sullivan, Corey, Patience, Skyla, Yusuf, Stella, Yusuf, Ross , Dangelo, Sullivan, Hassan, Stella, Corey, Kamden, Stella, Madalyn, Skyla, Patience, Sullivan, Skyla, Stella, Kamden, Yamilet, Corey, Madalyn, Helen, Kamden, Madalyn, Hassan, Dangelo, Skyla, Sullivan, Corey, Tommy, Yusuf, Jasiah, Madalyn, Tommy, Stella, Hassan, Patience, Elsie, Thomas, Stella, Tommy, Chaya, Sullivan, Madalyn, Elsie, Hassan, Stella, Hassan, Helen, Tommy, Tommy, Ross , Tommy, Yamilet, Elsie, Jasiah, Kaylie, Kaylie, Patience, Skyla, Tommy, Skyla, Jeramiah, Kaylie, Madalyn, Jeramiah, Jasiah, Tommy, Hassan, Stella, Stella, Jeramiah, Stella, Elsie, Kamden, Jeramiah, Sullivan, Skyla, Chaya, Kamden, Yamilet, Helen, Yusuf, Corey, Thomas, Kaylie, Elsie, Sullivan, Ross , Madalyn, Hassan, Dangelo, Patience, Stella, Kamden, Madalyn, Tommy, Hassan, Helen, Chaya, Jeramiah, Dangelo, Chaya, Tommy, Chaya, Yamilet, Patience, Stella, Helen, Chaya, Tommy, Kamden, Patience, Stella, Ross , Ross , Yamilet, Kamden, Corey, Yamilet, Kaylie, Kaylie, Chaya, Ross , Elsie, Dangelo, Hassan, Stella, Ross , Hassan, Tommy, Ross , Sullivan, Hassan, Elsie, Sullivan, Yusuf, Tommy, Jasiah, Sullivan, Thomas, Dangelo, Helen, Yusuf, Yamilet, Kamden, Madalyn, Corey, Ross , Dangelo, Chaya, Tommy, Patience, Ross , Helen, Skyla, Madalyn, Madalyn, Dangelo, Yamilet, Skyla, Thomas, Skyla, Thomas, Stella, Jasiah, Dangelo, Tommy, Thomas, Sullivan, Jeramiah, Ross , Elsie, Hassan, Kaylie, Stella, Dangelo, Chaya, Ross , Thomas, Stella, Corey, Jasiah, Madalyn, Thomas, Dangelo, Helen, Skyla, Yamilet, Ross , Kaylie, Tommy, Patience, Thomas, Patience, Stella, Chaya, Skyla, Thomas, Dangelo, Jasiah, Kamden, Ross , Kaylie, Patience, Jeramiah, Jasiah, Elsie, Tommy, Madalyn, Kamden, Dangelo, Stella, Chaya, Patience, Skyla, Skyla, Madalyn, Kaylie, Thomas, Thomas, Patience, Tommy, Madalyn, Chaya, Skyla, Chaya, Helen, Stella, Yamilet, Jeramiah, Corey, Patience, Madalyn, Chaya, Corey, Sullivan, Chaya, Kaylie, Jasiah, Jeramiah, Skyla, Jeramiah, Chaya, Chaya, Tommy, Sullivan, Sullivan, Thomas, Helen, Jasiah, Jasiah, Helen, Sullivan, Thomas, Corey, Madalyn, Patience, Hassan, Kamden, Hassan, Ross , Sullivan, Chaya, Kamden, Kamden, Dangelo, Corey, Skyla, Hassan, Dangelo, Skyla, Helen, Sullivan, Jasiah, Skyla, Hassan, Dangelo, Helen, Madalyn, Tommy, Skyla, Patience, Patience, Madalyn, Chaya, Skyla, Thomas, Ross , Dangelo, Dangelo, Skyla, Chaya, Jasiah, Hassan, Patience, Sullivan, Jeramiah, Dangelo, Thomas, Helen, Hassan, Helen, Kaylie, Elsie, Skyla, Patience, Tommy, Kaylie, Stella, Jeramiah, Yusuf, Corey, Kaylie, Elsie, Yamilet, Corey, Dangelo, Sullivan, Patience, Kaylie, Yusuf, Helen, Tommy, Corey, Ross , Ross , Sullivan, Madalyn, Jeramiah, Tommy, Yusuf, Yamilet, Tommy, Skyla, Stella, Dangelo, Dangelo, Helen, Elsie, Helen, Chaya, Patience, Ross , Sullivan, Ross , Jasiah, Yamilet, Corey, Jeramiah, Madalyn, Tommy, Patience, Jasiah, Stella, Helen, Corey, Madalyn, Ross , Thomas, Hassan, Chaya, Madalyn, Kaylie, Skyla, Elsie, Mada-

lyn, Corey, Tommy, Kaylie, Patience, Tommy, Jeramiah, Tommy, Patience, Corey, Kamden, Yusuf, Jasiah, Yamilet, Elsie, Yamilet, Hassan, Hassan, Tommy, Dangelo, Kamden, Sullivan, Corey, Dangelo, Sullivan, Stella, Kaylie, Kamden, Jeramiah, Madalyn, Corey, Hassan, Sullivan, Tommy, Skyla, Helen, Tommy, Jasiah, Helen, Dangelo, Thomas, Helen, Chaya, Hassan, Madalyn, Dangelo, Patience, Stella, Kaylie, Helen, Sullivan, Helen, Patience, Thomas

The Raw data 04

Yamilet, Sullivan, Yusuf, Tommy, Dangelo, Ross , Yusuf, Kamden, Jeramiah, Elsie, Stella, Sullivan, Helen, Yamilet, Corey, Kaylie, Patience, Ross , Yusuf, Elsie, Kamden, Madalyn, Hassan, Kaylie, Chaya, Elsie, Stella, Sullivan, Jasiah, Thomas, Tommy, Skyla, Kaylie, Dangelo, Madalyn, Kaylie, Yusuf, Thomas, Tommy, Yamilet, Yusuf, Chaya, Elsie, Stella, Stella, Tommy, Ross , Skyla, Kamden, Jeramiah, Yamilet, Hassan, Ross , Chaya, Thomas, Tommy, Skyla, Ross , Patience, Stella, Yusuf, Kaylie, Jasiah, Hassan, Stella, Jeramiah, Patience, Hassan, Kamden, Thomas, Dangelo, Corey, Ross , Corey, Patience, Elsie, Sullivan, Corey, Patience, Skyla, Yusuf, Stella, Yusuf, Ross , Dangelo, Sullivan, Hassan, Stella, Corey, Kamden, Stella, Madalyn, Skyla, Patience, Sullivan, Skyla, Stella, Kamden, Yamilet, Corey, Madalyn, Helen, Kamden, Madalyn, Hassan, Dangelo, Skyla, Sullivan, Corey, Tommy, Yusuf, Jasiah, Madalyn, Tommy, Stella, Hassan, Patience, Elsie, Thomas, Stella, Tommy, Chaya, Sullivan, Madalyn, Elsie, Hassan, Stella, Hassan, Helen, Tommy, Tommy, Ross , Tommy, Yamilet, Elsie, Jasiah, Kaylie, Kaylie, Patience, Skyla, Tommy, Skyla, Jeramiah, Kaylie, Madalyn, Jeramiah, Jasiah, Tommy, Hassan, Stella, Stella, Jeramiah, Stella, Elsie, Kamden, Jeramiah, Sullivan, Skyla, Chaya, Kamden, Yamilet, Helen, Yusuf, Corey, Thomas, Kaylie, Elsie, Sullivan, Ross , Madalyn, Hassan, Dangelo, Patience, Stella, Kamden, Madalyn, Tommy, Hassan, Helen, Chaya, Jeramiah, Dangelo, Chaya, Tommy, Chaya, Yamilet, Patience, Stella, Helen, Chaya, Tommy, Kamden, Patience, Stella, Ross , Ross , Yamilet, Kamden, Corey, Yamilet, Kaylie, Kaylie, Chaya, Ross , Elsie, Dangelo, Hassan, Stella, Ross , Hassan, Tommy, Ross , Sullivan, Hassan, Elsie, Sullivan, Yusuf, Tommy, Jasiah, Sullivan, Thomas, Dangelo, Helen, Yusuf, Yamilet, Kamden, Madalyn, Corey, Ross , Dangelo, Chaya, Tommy, Patience, Ross , Helen, Skyla, Madalyn, Madalyn, Dangelo, Yamilet, Skyla, Thomas, Skyla, Thomas, Stella, Jasiah, Dangelo, Tommy, Thomas, Sullivan, Jeramiah, Ross , Elsie, Hassan, Kaylie, Stella, Dangelo, Chaya, Ross , Thomas, Stella, Corey, Jasiah, Madalyn, Thomas, Dangelo, Helen, Skyla, Yamilet, Ross , Kaylie, Tommy, Patience, Thomas, Patience, Stella, Chaya, Skyla, Thomas, Dangelo, Jasiah, Kamden, Ross , Kaylie, Patience, Jeramiah, Jasiah, Elsie, Tommy, Madalyn, Kamden, Dangelo, Stella, Chaya, Patience, Skyla, Skyla, Madalyn, Kaylie, Thomas, Thomas, Patience, Tommy, Madalyn, Chaya, Skyla, Chaya, Helen, Stella, Yamilet, Jeramiah, Corey, Patience, Madalyn, Chaya, Corey, Sullivan, Chaya, Kaylie, Jasiah, Jeramiah, Skyla, Jeramiah, Chaya, Chaya, Tommy, Sullivan, Sullivan, Thomas, Helen, Jasiah, Jasiah, Helen, Sullivan, Thomas, Corey, Madalyn, Patience, Hassan, Kamden, Hassan, Ross , Sullivan, Chaya, Kamden, Kamden, Dangelo, Corey, Skyla, Hassan, Dangelo, Skyla, Helen, Sullivan, Jasiah, Skyla, Hassan, Dangelo, Helen, Madalyn, Tommy, Skyla, Patience, Patience, Madalyn, Chaya, Skyla, Thomas, Ross , Dangelo, Dangelo, Skyla, Chaya, Jasiah, Hassan, Patience, Sullivan, Jeramiah, Dangelo, Thomas, Helen, Hassan, Helen, Kaylie, Elsie, Skyla, Patience, Tommy, Kaylie, Stella, Jeramiah, Yusuf, Corey, Kaylie, Elsie, Yamilet, Corey, Dangelo, Sullivan, Patience, Kaylie, Yusuf, Helen, Tommy, Corey, Ross , Ross , Sullivan, Madalyn, Jeramiah, Tommy, Yusuf, Yamilet, Tommy, Skyla, Stella, Dangelo, Dangelo, Helen, Elsie, Helen, Chaya, Patience, Ross , Sullivan, Ross , Jasiah, Yamilet, Corey, Jeramiah, Madalyn, Tommy, Patience, Jasiah, Stella, Helen, Corey, Madalyn, Ross , Thomas, Hassan, Chaya, Madalyn, Kaylie, Skyla, Elsie, Mada-

lyn, Corey, Tommy, Kaylie, Patience, Tommy, Jeramiah, Tommy, Patience, Corey, Kamden, Yusuf, Jasiah, Yamilet, Elsie, Yamilet, Hassan, Hassan, Tommy, Dangelo, Kamden, Sullivan, Corey, Dangelo, Sullivan, Stella, Kaylie, Kamden, Jeramiah, Madalyn, Corey, Hassan, Sullivan, Tommy, Skyla, Helen, Tommy, Jasiah, Helen, Dangelo, Thomas, Helen, Chaya, Hassan, Madalyn, Dangelo, Patience, Stella, Kaylie, Helen, Sullivan, Helen, Patience, Thomas

Two Groups

Part 1 of 2 (250 words)

yamilet yusuf dangelo yusuf jeramiah stella helen corey patience yusuf kamden hassan chaya stella jasiah tommy kaylie madalyn yusuf tommy yusuf elsie stella ross kamden yamilet ross thomas skyla patience yusuf jasiah stella patience kamden dangelo ross patience sullivan patience yusuf yusuf dangelo hassan corey stella skyla sullivan stella yamilet madalyn kamden hassan skyla corey yusuf madalyn stella patience thomas tommy sullivan elsie stella helen tommy tommy elsie kaylie patience tommy jeramiah madalyn jasiah hassan stella stella kamden sullivan chaya yamilet yusuf thomas elsie ross hassan patience kamden tommy helen jeramiah chaya chaya patience helen tommy patience ross yamilet corey kaylie chaya elsie hassan ross tommy sullivan elsie yusuf jasiah thomas helen yamilet madalyn ross chaya patience helen madalyn dangelo skyla skyla stella dangelo thomas jeramiah elsie kaylie dangelo ross stella jasiah thomas helen yamilet kaylie patience patience chaya thomas jasiah ross patience jasiah tommy kamden stella patience skyla kaylie thomas tommy chaya chaya stella jeramiah patience chaya sullivan kaylie jeramiah jeramiah chaya sullivan thomas jasiah helen thomas madalyn hassan hassan sullivan kamden dangelo skyla dangelo helen jasiah hassan helen tommy patience madalyn skyla ross dangelo chaya hassan sullivan dangelo helen helen elsie patience kaylie jeramiah corey elsie corey sullivan kaylie helen corey ross madalyn tommy yamilet skyla dangelo helen helen patience sullivan jasiah corey madalyn patience stella corey ross hassan madalyn skyla madalyn tommy patience jeramiah patience kamden jasiah elsie hassan tommy kamden corey sullivan kaylie jeramiah corey sullivan skyla tommy helen thomas chaya madalyn patience kaylie sullivan patience

Part 2 of 2 (250 words)

sullivan tommy ross kamden elsie sullivan yamilet kaylie ross elsie madalyn kaylie elsie sullivan
thomas skyla dangelo kaylie thomas yamilet chaya stella tommy skyla jeramiah hassan chaya
tommy ross stella kaylie hassan jeramiah hassan thomas corey corey elsie corey skyla stella
ross sullivan stella kamden madalyn patience skyla kamden corey helen madalyn dangelo
sullivan tommy jasiah tommy hassan elsie stella chaya madalyn hassan hassan tommy ross
yamilet jasiah kaylie skyla skyla kaylie jeramiah tommy stella jeramiah elsie jeramiah skyla
kamden helen corey kaylie sullivan madalyn dangelo stella madalyn hassan chaya dangelo
tommy yamilet stella chaya kamden stella ross kamden yamilet kaylie ross dangelo stella
hassan ross hassan sullivan tommy sullivan dangelo yusuf kamden corey dangelo tommy ross
skyla madalyn yamilet thomas thomas jasiah tommy sullivan ross hassan stella chaya thomas
corey madalyn dangelo skyla ross tommy thomas stella skyla dangelo kamden kaylie jeramiah
elsie madalyn dangelo chaya skyla madalyn thomas patience madalyn skyla helen yamilet corey
madalyn corey chaya jasiah skyla chaya tommy sullivan helen jasiah sullivan corey patience
kamden ross chaya kamden corey hassan skyla sullivan skyla dangelo madalyn skyla patience
chaya thomas dangelo skyla jasiah patience jeramiah thomas hassan kaylie skyla tommy stella
yusuf kaylie yamilet dangelo patience yusuf tommy ross sullivan jeramiah yusuf tommy stella
dangelo elsie chaya ross ross yamilet jeramiah tommy jasiah helen madalyn thomas chaya
kaylie elsie corey kaylie tommy tommy corey yusuf yamilet yamilet hassan dangelo sullivan
dangelo stella kamden madalyn hassan tommy helen jasiah dangelo helen hassan dangelo stella
helen helen thomas

Four Groups

Part 1 of 4 (125 words)

yamilet dangelo jeramiah helen patience kamden chaya jasiah kaylie yusuf yusuf stella kamden
ross skyla yusuf stella kamden ross sullivan yusuf dangelo corey skyla stella madalyn hassan
corey madalyn patience tommy elsie helen tommy kaylie tommy madalyn hassan stella sullivan
yamilet thomas ross patience tommy jeramiah chaya helen patience yamilet kaylie elsie ross
sullivan yusuf thomas yamilet ross patience madalyn skyla stella thomas elsie dangelo stella
thomas yamilet patience chaya jasiah patience tommy stella skyla thomas chaya stella patience
sullivan jeramiah chaya thomas helen madalyn hassan kamden skyla helen hassan tommy
madalyn ross chaya sullivan helen elsie kaylie corey corey kaylie corey madalyn yamilet dangelo
helen sullivan corey patience corey hassan skyla tommy jeramiah kamden elsie tommy corey
kaylie corey skyla helen chaya patience sullivan

Part 2 of 4 (125 words)

sullivan ross elsie yamilet ross madalyn elsie thomas dangelo thomas chaya tommy jeramiah
chaya ross kaylie jeramiah thomas corey corey stella sullivan kamden patience kamden helen
dangelo tommy tommy elsie chaya hassan tommy yamilet kaylie skyla jeramiah stella elsie
skyla helen kaylie madalyn stella hassan dangelo yamilet chaya stella kamden kaylie dangelo
hassan hassan tommy dangelo kamden dangelo ross madalyn thomas jasiah sullivan hassan
chaya corey dangelo ross thomas skyla kamden jeramiah madalyn chaya madalyn patience
skyla yamilet madalyn chaya skyla tommy helen sullivan patience ross kamden hassan sullivan
dangelo skyla chaya dangelo jasiah jeramiah hassan skyla stella kaylie dangelo yusuf ross
jeramiah tommy dangelo chaya ross jeramiah jasiah madalyn chaya elsie kaylie tommy yusuf
yamilet dangelo dangelo kamden hassan helen dangelo hassan stella helen

Part 3 of 4 (125 words)

yusuf yusuf stella corey yusuf hassan stella tommy madalyn tommy elsie ross yamilet thomas
patience jasiah patience dangelo patience patience yusuf hassan stella sullivan yamilet kamden
skylar yusuf stella thomas sullivan stella tommy elsie patience jeramiah jasiah stella kamden
chaya yusuf elsie hassan kamden helen chaya patience tommy ross corey chaya hassan tommy
elsie jasiah helen madalyn chaya helen dangelo skylar dangelo jeramiah kaylie ross jasiah helen
kaylie patience thomas ross jasiah kamden patience kaylie tommy chaya jeramiah chaya kaylie
jeramiah sullivan jasiah thomas hassan sullivan dangelo dangelo jasiah helen patience skylar
dangelo hassan dangelo helen patience jeramiah elsie sullivan helen ross tommy skylar helen
patience jasiah madalyn stella ross madalyn madalyn patience patience jasiah hassan kamden
sullivan jeramiah sullivan tommy thomas madalyn kaylie patience

Part 4 of 4 (125 words)

tommy kamden sullivan kaylie elsie kaylie sullivan skyla kaylie yamilet stella skyla hassan
tommy stella hassan hassan corey elsie skyla ross stella madalyn skyla corey madalyn sullivan
jasiah hassan stella madalyn hassan ross jasiah skyla kaylie tommy jeramiah jeramiah kamden
corey sullivan dangelo madalyn chaya tommy stella kamden ross yamilet ross stella ross sullivan
sullivan yusuf corey tommy skyla yamilet thomas tommy ross stella thomas madalyn skyla
tommy stella dangelo kaylie elsie dangelo skyla thomas madalyn helen corey corey jasiah chaya
sullivan jasiah corey kamden chaya corey skyla skyla madalyn patience thomas skyla patience
thomas kaylie tommy yusuf yamilet patience tommy sullivan yusuf stella elsie ross yamilet
tommy helen thomas kaylie corey tommy corey yamilet hassan sullivan stella madalyn tommy
jasiah helen dangelo helen thomas

Five Groups

Part 1 of 5 (100 words)

yamilet ross stella kaylie kamden elsie tommy kaylie yusuf tommy yamilet tommy yusuf
jeramiah dangelo elsie yusuf sullivan stella skyla madalyn dangelo yusuf hassan tommy hassan
tommy jasiah tommy jeramiah stella jeramiah yamilet kaylie hassan madalyn jeramiah yamilet
tommy ross kaylie dangelo tommy sullivan thomas kamden chaya skyla skyla jasiah jeramiah
stella stella dangelo kaylie stella jasiah jeramiah kamden skyla thomas skyla jeramiah corey
jeramiah tommy jasiah corey hassan kamden dangelo skyla tommy chaya dangelo patience
helen skyla jeramiah yamilet kaylie ross tommy stella helen ross madalyn helen hassan elsie
patience corey elsie dangelo sullivan madalyn skyla dangelo madalyn helen

Part 2 of 5 (100 words)

sullivan yusuf sullivan patience madalyn stella skyla yusuf chaya ross hassan skyla kaylie
patience corey sullivan stella hassan madalyn stella helen skyla jasiah patience chaya stella
ross kaylie skyla jasiah jeramiah sullivan helen elsie dangelo tommy dangelo patience kamden
yamilet kaylie hassan ross yusuf dangelo madalyn tommy madalyn thomas dangelo ross dangelo
corey helen tommy chaya kamden jasiah dangelo skyla patience chaya corey sullivan skyla
sullivan jasiah madalyn ross dangelo skyla hassan skyla skyla skyla sullivan hassan patience
yusuf corey yusuf ross yusuf dangelo chaya jasiah tommy corey chaya madalyn tommy kamden
yamilet kamden stella corey helen thomas dangelo sullivan

Part 3 of 5 (100 words)

yusuf kamden helen ross hassan sullivan kaylie thomas elsie skyla ross ross jasiah hassan
ross corey yusuf stella skyla kamden kamden sullivan madalyn elsie sullivan hassan tommy
kaylie jeramiah tommy stella skyla yusuf sullivan patience hassan chaya stella patience kamden
chaya stella sullivan tommy helen corey patience madalyn skyla tommy elsie chaya jasiah
skyla patience skyla ross elsie stella madalyn tommy helen patience chaya jeramiah sullivan
helen patience sullivan corey helen dangelo patience thomas chaya jeramiah helen tommy
corey dangelo helen sullivan yamilet dangelo patience yamilet patience madalyn madalyn corey
jeramiah yusuf hassan sullivan kaylie hassan tommy helen patience helen

Part 4 of 5 (100 words)

tommy jeramiah yamilet yusuf kaylie jasiah dangelo tommy stella kamden chaya patience
hassan kamden corey patience ross corey patience yamilet madalyn corey tommy thomas
madalyn helen yamilet patience kaylie hassan elsie chaya corey ross stella helen tommy helen
stella corey ross ross hassan jasiah yusuf ross ross dangelo thomas thomas hassan ross madalyn
yamilet thomas thomas kaylie tommy chaya kaylie madalyn stella madalyn kaylie chaya thomas
sullivan hassan chaya skyla sullivan helen patience ross jasiah dangelo kaylie kaylie kaylie
sullivan tommy madalyn tommy helen ross corey jasiah ross kaylie tommy tommy jasiah
hassan corey kamden sullivan jasiah chaya stella patience

Part 5 of 5 (100 words)

dangelo elsie corey elsie chaya thomas madalyn yamilet stella jeramiah thomas stella stella
thomas patience skyla dangelo kamden sullivan corey hassan tommy stella stella elsie tommy
elsie skyla madalyn stella kamden kamden thomas madalyn kamden chaya chaya chaya ross
yamilet elsie hassan elsie sullivan yamilet dangelo helen yamilet stella sullivan kaylie thomas
thomas ross patience dangelo patience madalyn patience thomas chaya yamilet chaya jasiah
chaya helen thomas kamden kamden hassan jasiah madalyn madalyn dangelo hassan thomas
elsie stella elsie patience corey jeramiah skyla elsie sullivan jeramiah stella thomas skyla kaylie
patience yamilet tommy dangelo jeramiah tommy helen hassan kaylie thomas

Ten Groups

Part 1 of 10 (50 words)

yamilet stella kamden tommy yusuf yamilet yusuf dangelo yusuf stella madalyn yusuf tommy
tommy tommy stella yamilet hassan jeramiah tommy kaylie tommy thomas chaya skyla
jeramiah stella kaylie jasiah kamden thomas jeramiah jeramiah jasiah hassan dangelo tommy
dangelo helen jeramiah kaylie tommy helen madalyn hassan patience elsie sullivan skyla
madalyn

Part 2 of 10 (50 words)

sullivan sullivan madalyn skyla chaya hassan kaylie corey stella madalyn helen jasiah chaya
ross skyla jeramiah helen dangelo dangelo kamden kaylie ross dangelo tommy thomas ross
corey tommy kamden dangelo patience corey skyla jasiah ross skyla skyla skyla hassan yusuf
yusuf yusuf chaya tommy chaya tommy yamilet stella helen dangelo

Part 3 of 10 (50 words)

yusuf helen hassan kaylie elsie ross jasiah ross yusuf skyla kamden madalyn sullivan tommy
jeramiah stella yusuf patience chaya patience chaya sullivan helen patience skyla elsie jasiah
patience ross stella tommy patience jeramiah helen sullivan helen patience chaya helen corey
helen yamilet patience patience madalyn jeramiah hassan kaylie tommy patience

Part 4 of 10 (50 words)

tommy yamilet kaylie dangelo stella chaya hassan corey ross patience madalyn tommy madalyn
yamilet kaylie elsie corey stella tommy stella ross hassan yusuf ross thomas hassan madalyn
thomas kaylie chaya madalyn madalyn chaya sullivan chaya sullivan patience jasiah kaylie
kaylie tommy tommy ross jasiah kaylie tommy hassan kamden jasiah stella

Part 5 of 10 (50 words)

dangelo corey chaya madalyn stella thomas stella patience dangelo sullivan hassan stella elsie
elsie madalyn kamden thomas kamden chaya ross elsie elsie yamilet helen stella kaylie thomas
patience patience patience chaya chaya chaya thomas kamden jasiah madalyn hassan elsie elsie
corey skyla sullivan stella skyla patience tommy jeramiah helen kaylie

Part 6 of 10 (50 words)

ross kaylie elsie kaylie tommy tommy jeramiah elsie sullivan skyla dangelo hassan hassan
jasiah jeramiah jeramiah kaylie madalyn yamilet ross dangelo sullivan kamden skyla jasiah
stella dangelo stella jeramiah skyla skyla corey tommy corey kamden skyla chaya patience
skyla yamilet ross stella ross helen elsie corey dangelo madalyn dangelo helen

Part 7 of 10 (50 words)

yusuf patience stella yusuf ross skyla patience sullivan hassan stella skyla patience stella kaylie
jasiah sullivan elsie tommy patience yamilet hassan yusuf madalyn madalyn dangelo dangelo
helen chaya jasiah skyla chaya sullivan sullivan madalyn dangelo hassan skyla sullivan patience
corey ross dangelo jasiah corey madalyn kamden kamden corey thomas sullivan

Part 8 of 10 (50 words)

kamden ross sullivan thomas skyla ross hassan corey stella kamden sullivan elsie hassan kaylie
tommy skyla sullivan hassan stella kamden stella tommy corey madalyn tommy chaya skyla
skyla elsie madalyn helen chaya sullivan patience corey dangelo thomas jeramiah tommy dan-
gelo sullivan dangelo yamilet madalyn corey yusuf sullivan hassan helen helen

Part 9 of 10 (50 words)

jeramiah yusuf jasiah tommy kamden patience kamden patience corey yamilet corey thomas
helen patience hassan chaya ross helen helen corey ross jasiah ross dangelo thomas ross yamilet
thomas tommy kaylie stella kaylie thomas hassan skyla helen ross dangelo kaylie sullivan
madalyn helen corey ross tommy jasiah corey sullivan chaya patience

Part 10 of 10 (50 words)

elsie elsie thomas yamilet jeramiah stella thomas skyla kamden corey tommy stella tommy
skyla stella kamden madalyn chaya chaya yamilet hassan sullivan dangelo yamilet sullivan
thomas ross dangelo madalyn thomas yamilet jasia helen kamden hassan madalyn dangelo
thomas stella patience jeramiah elsie jeramiah thomas kaylie yamilet dangelo tommy hassan
thomas

Twenty Groups

Part 1 of 20 (25 words)

yamilet kamden yusuf yusuf yusuf madalyn tommy tommy yamilet jeramiah kaylie thomas
skylar stella jariah thomas jeramiah hassan tommy helen kaylie helen hassan elsie skylar

Part 2 of 20 (25 words)

sullivan madalyn chaya kaylie stella helen chaya skyla helen dangelo kaylie dangelo thomas
corey kamden patience skyla ross skyla hassan yusuf chaya chaya yamilet helen

Part 3 of 20 (25 words)

yusuf hassan elsie jasiah yusuf kamden sullivan jeramiah yusuf chaya chaya helen skyla jasiah
ross tommy jeramiah sullivan patience helen helen patience madalyn hassan tommy

Part 4 of 20 (25 words)

tommy kaylie stella hassan ross madalyn madalyn kaylie corey tommy ross yusuf thomas
madalyn kaylie madalyn chaya chaya patience kaylie tommy ross kaylie hassan jasiah

Part 5 of 20 (25 words)

dangelo chaya stella stella dangelo hassan elsie madalyn thomas chaya elsie yamilet stella
thomas patience chaya chaya kamden madalyn elsie corey sullivan skyla tommy helen

Part 6 of 20 (25 words)

ross elsie tommy jeramiah sullivan dangelo hassan jeramiah kaylie yamilet dangelo kamden
jasiah dangelo jeramiah skyla tommy kamden chaya skyla ross ross elsie dangelo dangelo

Part 7 of 20 (25 words)

yusuf stella ross patience hassan skyla stella jasiah elsie patience hassan madalyn dangelo
helen jasiah chaya sullivan dangelo skyla patience ross jasiah madalyn kamden thomas

Part 8 of 20 (25 words)

kamden sullivan skyla hassan stella sullivan hassan tommy sullivan stella stella corey tommy
skyla elsie helen sullivan corey thomas tommy sullivan yamilet corey sullivan helen

Part 9 of 20 (25 words)

jeramiah jasiah kamden kamden corey corey helen hassan ross helen ross ross thomas yamilet
tommy stella thomas skyla ross kaylie madalyn corey tommy corey chaya

Part 10 of 20 (25 words)

elsie thomas jeramiah thomas kamden tommy tommy stella madalyn chaya hassan dangelo
sullivan ross madalyn yamilet helen hassan dangelo stella jeramiah jeramiah kaylie dangelo
hassan

Part 11 of 20 (25 words)

stella tommy yamilet dangelo stella yusuf tommy stella hassan tommy tommy chaya jeramiah
kaylie kamden jeramiah jasiah dangelo dangelo jeramiah tommy madalyn patience sullivan
madalyn

Part 12 of 20 (25 words)

sullivan skyla hassan corey madalyn jasiah ross jeramiah dangelo kamden ross tommy ross
tommy dangelo corey jasiah skyla skyla yusuf yusuf tommy tommy stella dangelo

Part 13 of 20 (25 words)

helen kaylie ross ross skyla madalyn tommy stella patience patience sullivan patience elsie
patience stella patience helen helen chaya corey yamilet patience jeramiah kaylie patience

Part 14 of 20 (25 words)

yamilet dangelo chaya corey patience tommy yamilet elsie stella stella hassan ross hassan
thomas chaya madalyn sullivan sullivan jasiah kaylie tommy jasiah tommy kamden stella

Part 15 of 20 (25 words)

corey madalyn thomas patience sullivan stella elsie kamden kamden ross elsie helen kaylie
patience patience chaya thomas jasiah hassan elsie skyla stella patience jeramiah kaylie

Part 16 of 20 (25 words)

kaylie kaylie tommy elsie skyla hassan jasiaah jeramiah madalyn ross sullivan skyla stella stella
skyla corey corey skyla patience yamilet stella helen corey madalyn helen

Part 17 of 20 (25 words)

patience yusuf skyla sullivan stella patience kaylie sullivan tommy yamilet yusuf madalyn dangel-
gelo chaya skyla sullivan madalyn hassan sullivan corey dangelo corey kamden corey sullivan

Part 18 of 20 (25 words)

ross thomas ross corey kamden elsie kaylie skyla hassan kamden tommy madalyn chaya skyla
madalyn chaya patience dangelo jeramiah dangelo dangelo madalyn yusuf hassan helen

Part 19 of 20 (25 words)

yusuf tommy patience patience yamilet thomas patience chaya helen corey jasiah dangelo ross
thomas kaylie kaylie hassan helen dangelo sullivan helen ross jasiah sullivan patience

Part 20 of 20 (25 words)

elsie yamilet stella skyla corey stella skyla kamden chaya yamilet sullivan yamilet thomas dan-
gelo thomas jasiah kamden madalyn thomas patience elsie thomas yamilet tommy thomas