```
library(stringr)
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
library(ggplot2)
library(tm)
```

```
## Warning: package 'tm' was built under R version 3.4.4
```

```
## Loading required package: NLP
```

```
##
## Attaching package: 'NLP'
```

```
## The following object is masked from 'package:ggplot2':
##
##     annotate
```

```
library(wordcloud)
```

```
## Warning: package 'wordcloud' was built under R version 3.4.4
```

```
## Loading required package: RColorBrewer
```

Apple

```
load("C:/Users/liz/Desktop/tweets.AAPL.RData")
```

```
positive=scan('C:/Users/liz/Documents/positive-words.txt',what='character',comment.char=';')
negative=scan('C:/Users/liz/Documents/negative-words.txt',what='character',comment.char=';')


tryTolower = function(x)
{
  y = NA
  # tryCatch error
  try_error = tryCatch(tolower(x), error = function(e) e)
  # if not an error
  if (!inherits(try_error, "error")){
    y = tolower(x)
  }else{
    y = tolower(iconv(x, "latin1", "ASCII", sub=""))
  }
  return(y)
}

clean=function(t){
```

```
  t=gsub('[[:punct:]]','',t)
  t=gsub('[[:cntrl:]]','',t)
  t=gsub('\\d+','',t)
  t=gsub('[[:digit:]]','',t)
  t=gsub('@\\w+','',t)
  t=gsub('http\\w+','',t)
  t=gsub("^\\s+|\\s+$", "", t)
  t=sapply(t,function(x) tryTolower(x))
  t=str_split(t," ")
  t=unlist(t)
  return(t)
}


aaplT=lapply(tweets,function(t) t$getText())
clean.aapl=lapply(aaplT,function(x) clean(tryTolower(x)))


#####################################

score=function(tweet, pos = positive, neg = negative) {
  pos.match <- match(tweet, pos)
  neg.match <- match(tweet, neg)

  ## Scores
  pos.match.s <- !is.na(pos.match)
  neg.match.s <- !is.na(neg.match)

  pos.score <- sum(pos.match.s)
  neg.score <- sum(neg.match.s)

  ## Words
  posw <- pos[pos.match]
  posw <- posw[!is.na(posw)]

  negw <- neg[neg.match]
  negw <- negw[!is.na(negw)]

  return(list(pos.score = pos.score, neg.score = neg.score, pos.words = posw, neg.words = negw))
}

###calculate total number of positive and negative words ###
returnpscore=function(tweet) {
  pos.match=match(tweet,positive)
  pos.match=!is.na(pos.match)
  pos.score=sum(pos.match)
  return(pos.score)
}

returnnscore=function(tweet) {
  neg.match=match(tweet,negative)
  neg.match=!is.na(neg.match)
  neg.score=sum(neg.match)
```

```
  return(neg.score)
}

positive.score=lapply(clean.aapl,function(x) returnpscore(x))
negative.score=lapply(clean.aapl,function(x) returnnscore(x))

pcount=0
for (i in 1:length(positive.score)) {
  pcount=pcount+positive.score[[i]]
}
pcount
```

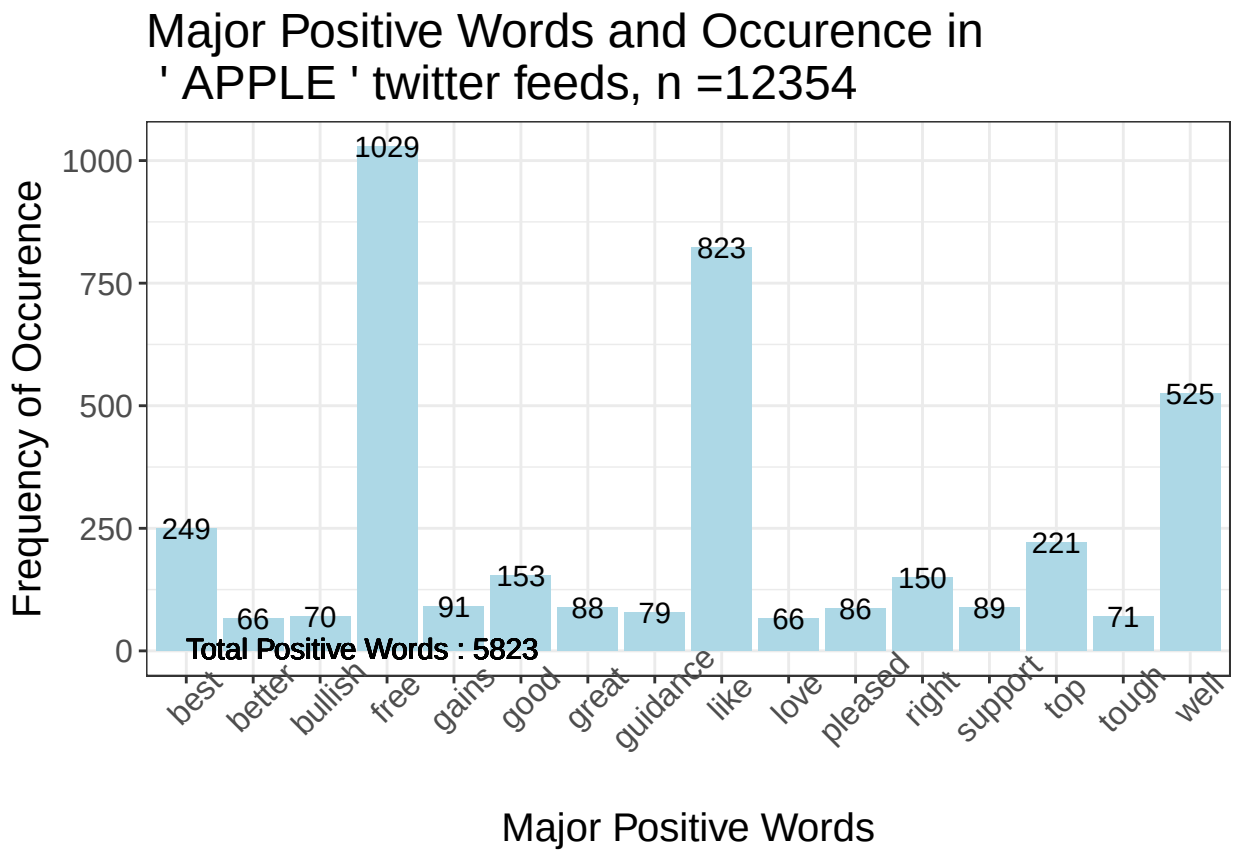
```
## [1] 5823
```

```
ncount=0
for (i in 1:length(negative.score)) {
  ncount=ncount+negative.score[[i]]
}
ncount
```

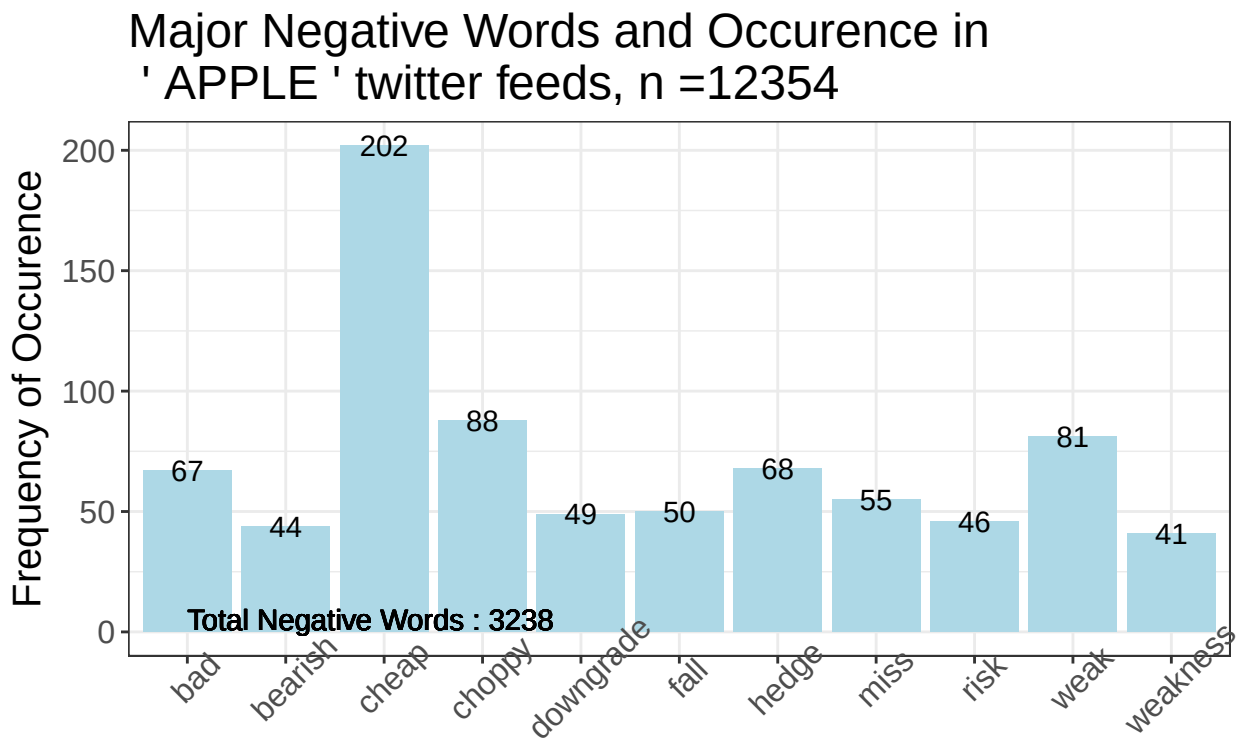
```
## [1] 3238
```

```
###creat graph###

poswords<-lapply(clean.aapl,function(x)score(x)$pos.words)
negwords<-lapply(clean.aapl,function(x)score(x)$neg.words)

pwords <- unlist(poswords)
nwords <- unlist(negwords)
dpwords=data.frame(table(pwords))
dnwords=data.frame(table(nwords))

dpwords=dpwords%>%
  mutate(pwords=as.character(pwords))%>%
  filter(Freq>60)

dnwords=dnwords%>%
  mutate(nwords=as.character(nwords))%>%
  filter(Freq>40)
```

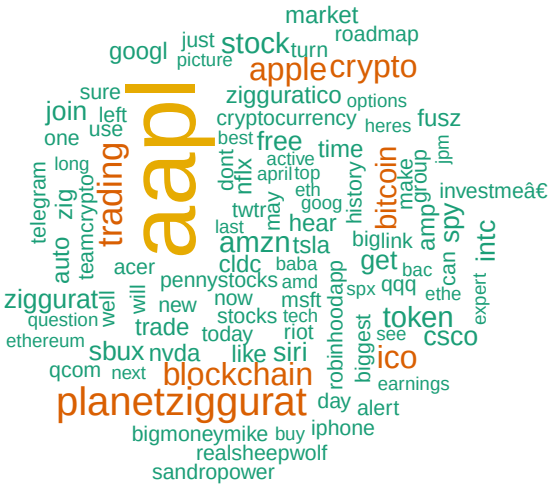
```
##aapl##
ggplot(dpwords,aes(pwords,Freq))+geom_bar(stat="identity",fill="lightblue")+theme_bw()+
  geom_text(aes(pwords,Freq,label=Freq),size=4)+
  labs(x="Major Positive Words", y="Frequency of Occurence",title=paste("Major Positive Words and Occur
  geom_text(aes(1,5,label=paste("Total Positive Words : 5823")),size=4,hjust=0)+theme(axis.text.x=eleme
```




```
ggplot(dnwords,aes(nwords,Freq))+geom_bar(stat="identity",fill="lightblue")+theme_bw()+
  geom_text(aes(nwords,Freq,label=Freq),size=4)+
  labs(x="Major Negative Words", y="Frequency of Occurence",title=paste("Major Negative Words and Occur
  geom_text(aes(1,5,label=paste("Total Negative Words : 3238")),size=4,hjust=0)+theme(axis.text.x=eleme
```




```
###wordcloud###

tweetscorpus=Corpus(VectorSource(clean.aapl))
tweetscorpus=tm_map(tweetscorpus,removeWords,stopwords("english"))
wordcloud(tweetscorpus,scale=c(3,0.5),random.order = TRUE,rot.per = 0.20,use.r.layout = FALSE,colors = 
```



SPY

```
load("C:/Users/liz/Desktop/tweets.SPY.RData")

aaplT=lapply(tweets,function(t) t$getText())
clean.aapl=lapply(aaplT,function(x) clean(tryTolower(x)))


#####################################

###calculate total number of positive and negative words ###

positive.score=lapply(clean.aapl,function(x) returnpscore(x))
negative.score=lapply(clean.aapl,function(x) returnnscore(x))

pcount=0
for (i in 1:length(positive.score)) {
  pcount=pcount+positive.score[[i]]
}
pcount
```

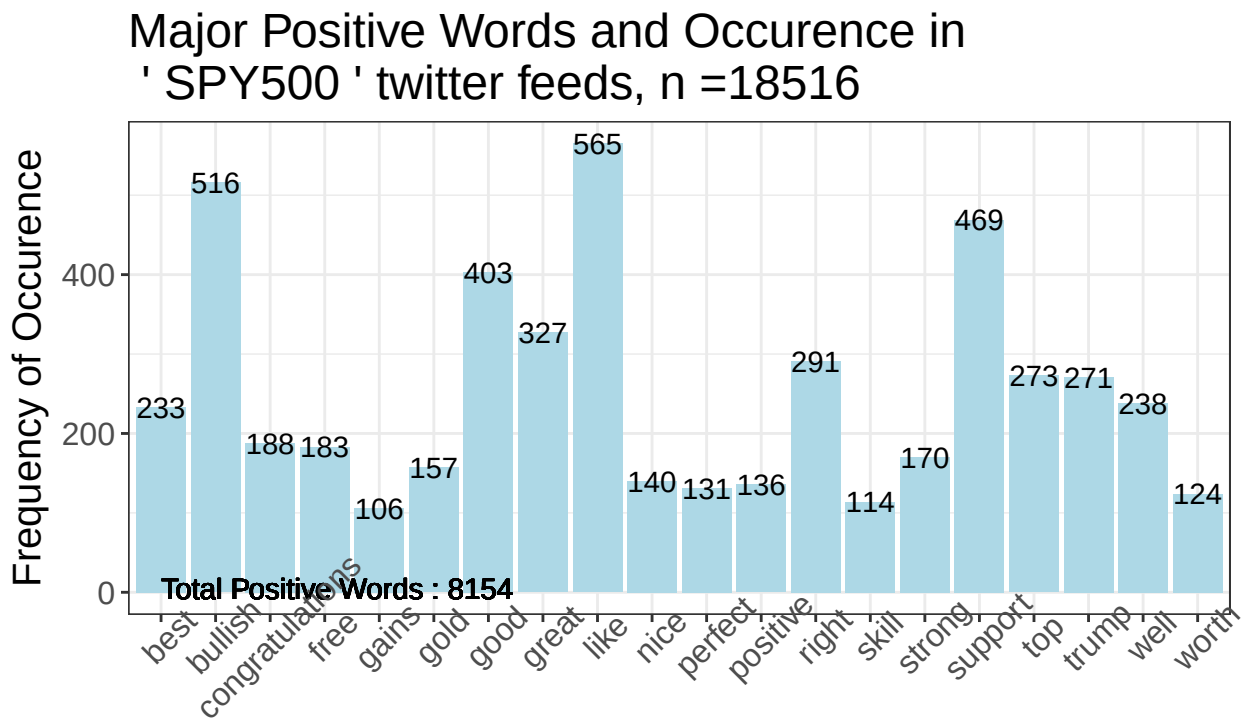
```
## [1] 8154
```

```
ncount=0
for (i in 1:length(negative.score)) {
```

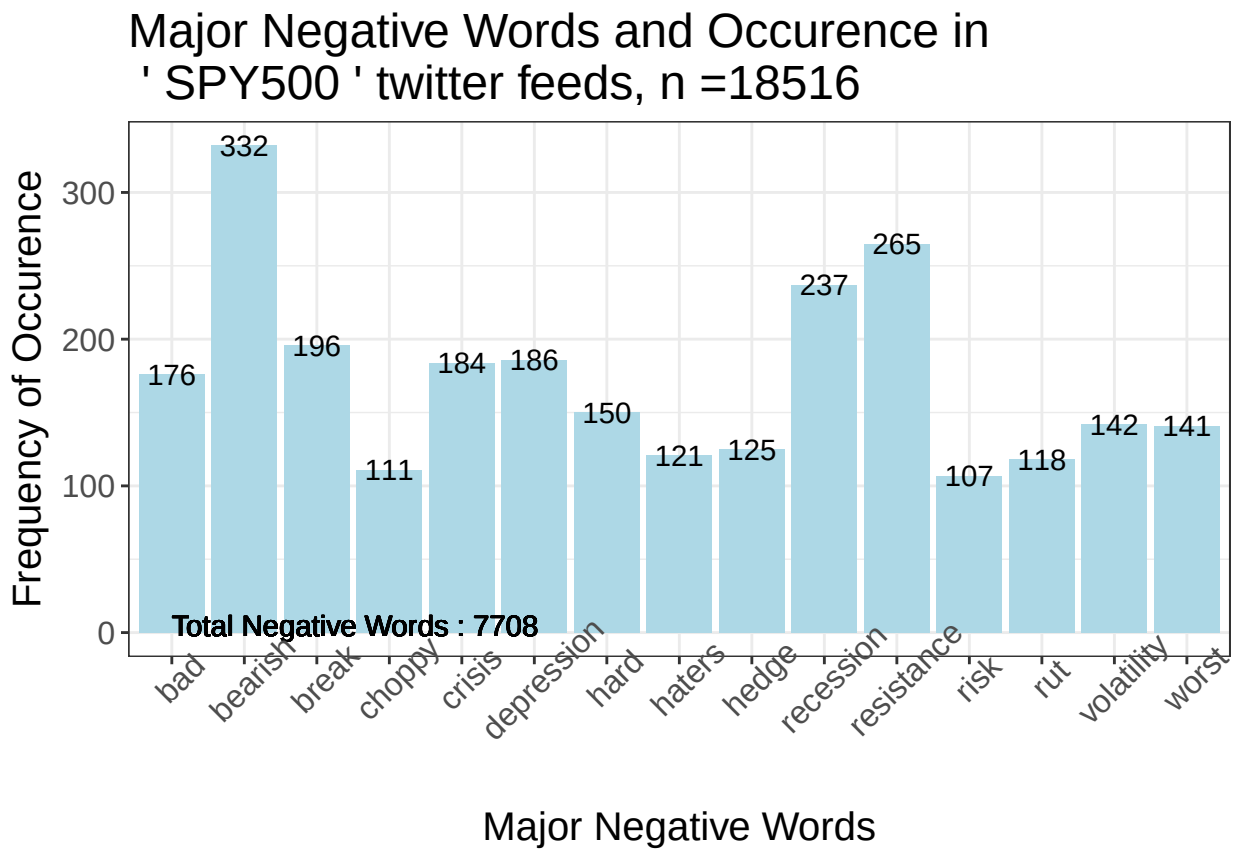
```
  ncount=ncount+negative.score[[i]]
}
ncount
```

```
## [1] 7708
```

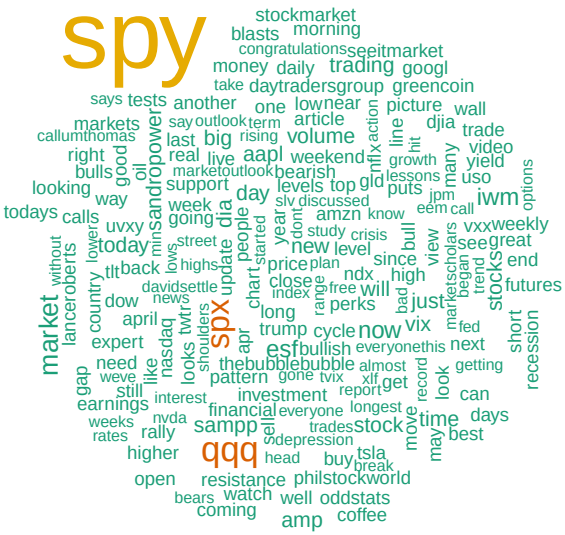
```
###creat graph###

poswords<-lapply(clean.aapl,function(x)score(x)$pos.words)
negwords<-lapply(clean.aapl,function(x)score(x)$neg.words)

pwords <- unlist(poswords)
nwords <- unlist(negwords)
dpwords=data.frame(table(pwords))
dnwords=data.frame(table(nwords))

dpwords=dpwords%>%
  mutate(pwords=as.character(pwords))%>%
  filter(Freq>100)

dnwords=dnwords%>%
  mutate(nwords=as.character(nwords))%>%
  filter(Freq>100)

ggplot(dpwords,aes(pwords,Freq))+geom_bar(stat="identity",fill="lightblue")+theme_bw()+
  geom_text(aes(pwords,Freq,label=Freq),size=4)+
  labs(x="Major Positive Words", y="Frequency of Occurence",title=paste("Major Positive Words and Occur
  geom_text(aes(1,5,label=paste("Total Positive Words : 8154")),size=4,hjust=0)+theme(axis.text.x=eleme
```




```
ggplot(dnwords,aes(nwords,Freq))+geom_bar(stat="identity",fill="lightblue")+theme_bw()+
  geom_text(aes(nwords,Freq,label=Freq),size=4)+
  labs(x="Major Negative Words", y="Frequency of Occurence",title=paste("Major Negative Words and Occur
  geom_text(aes(1,5,label=paste("Total Negative Words : 7708")),size=4,hjust=0)+theme(axis.text.x=eleme
```




```
###wordcloud###

tweetscorpus=Corpus(VectorSource(clean.aapl))
tweetscorpus=tm_map(tweetscorpus,removeWords,stopwords("english"))
wordcloud(tweetscorpus,scale=c(3,0.5),random.order = TRUE,rot.per = 0.20,use.r.layout = FALSE,colors = 
```



FB

```
load("C:/Users/liz/Desktop/tweets.FB.RData")

aaplT=lapply(tweets,function(t) t$getText())
clean.aapl=lapply(aaplT,function(x) clean(tryTolower(x)))



#######################################

###calculate total number of positive and negative words ###

positive.score=lapply(clean.aapl,function(x) returnpscore(x))
negative.score=lapply(clean.aapl,function(x) returnnscore(x))

pcount=0
for (i in 1:length(positive.score)) {
  pcount=pcount+positive.score[[i]]
}
pcount
```

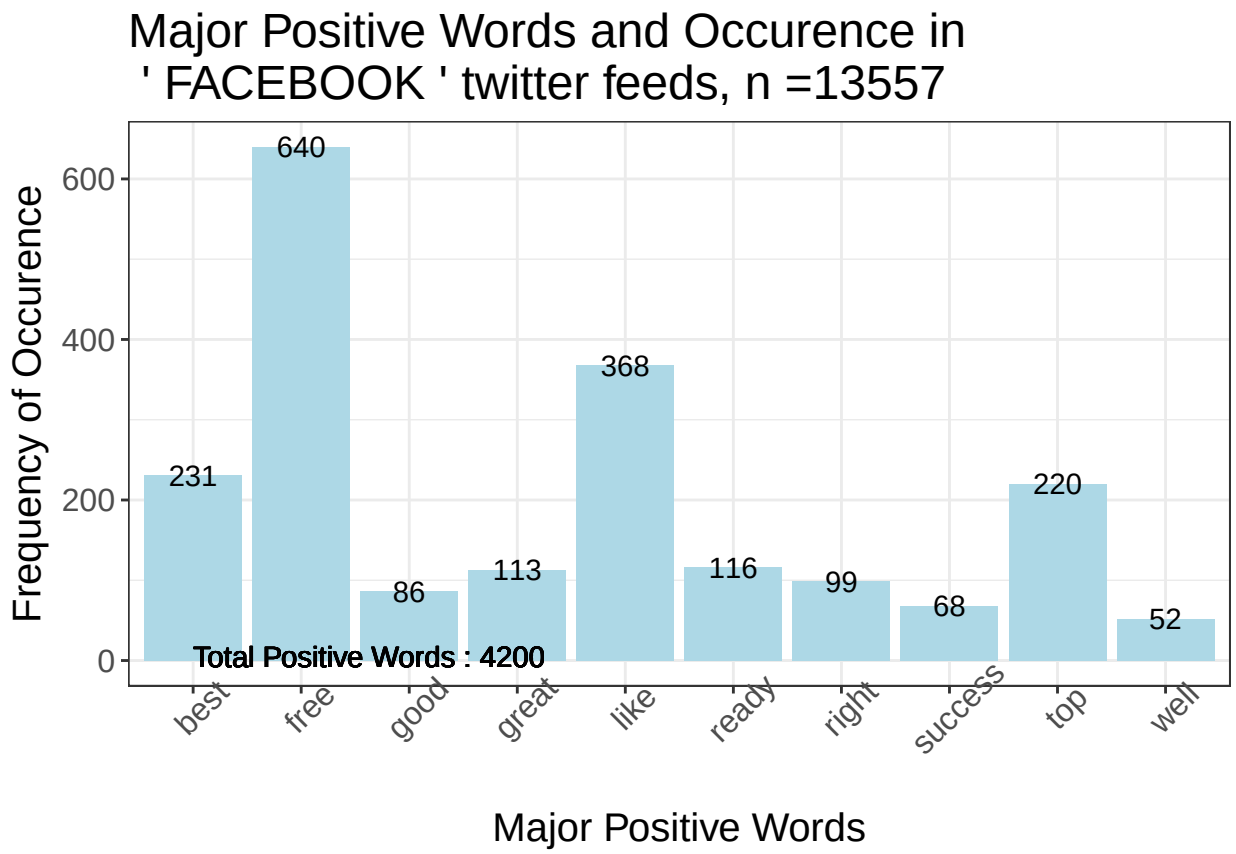
```
## [1] 4200
```

```
ncount=0
for (i in 1:length(negative.score)) {
```

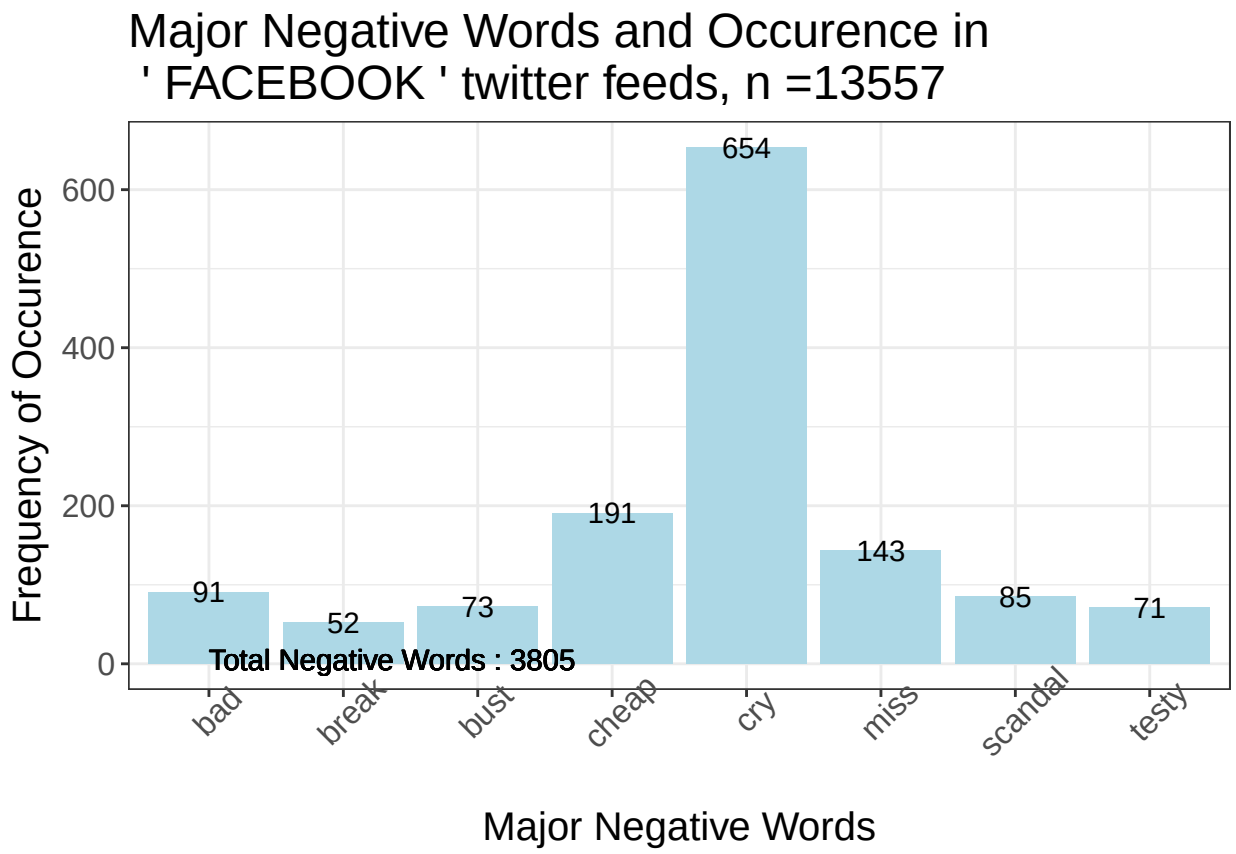
```
  ncount=ncount+negative.score[[i]]
}
ncount
```

```
## [1] 3805
```

```
###creat graph###

poswords<-lapply(clean.aapl,function(x)score(x)$pos.words)
negwords<-lapply(clean.aapl,function(x)score(x)$neg.words)

pwords <- unlist(poswords)
nwords <- unlist(negwords)
dpwords=data.frame(table(pwords))
dnwords=data.frame(table(nwords))

dpwords=dpwords%>%
  mutate(pwords=as.character(pwords))%>%
  filter(Freq>50)

dnwords=dnwords%>%
  mutate(nwords=as.character(nwords))%>%
  filter(Freq>50)

ggplot(dpwords,aes(pwords,Freq))+geom_bar(stat="identity",fill="lightblue")+theme_bw()+
  geom_text(aes(pwords,Freq,label=Freq),size=4)+
  labs(x="Major Positive Words", y="Frequency of Occurence",title=paste("Major Positive Words and Occur
  geom_text(aes(1,5,label=paste("Total Positive Words : 4200")),size=4,hjust=0)+theme(axis.text.x=eleme
```




```
ggplot(dnwords,aes(nwords,Freq))+geom_bar(stat="identity",fill="lightblue")+theme_bw()+
  geom_text(aes(nwords,Freq,label=Freq),size=4)+
  labs(x="Major Negative Words", y="Frequency of Occurence",title=paste("Major Negative Words and Occur
  geom_text(aes(1,5,label=paste("Total Negative Words : 3805")),size=4,hjust=0)+theme(axis.text.x=eleme
```




```
###wordcloud###

tweetscorpus=Corpus(VectorSource(clean.aapl))
tweetscorpus=tm_map(tweetscorpus,removeWords,stopwords("english"))
wordcloud(tweetscorpus,scale=c(3,0.5),random.order = TRUE,rot.per = 0.20,use.r.layout = FALSE,colors = 
```

```
## Warning in wordcloud(tweetscorpus, scale = c(3, 0.5), random.order =
## TRUE, : planetziggurat could not be fit on page. It will not be plotted.
```

```
## Warning in wordcloud(tweetscorpus, scale = c(3, 0.5), random.order =
## TRUE, : zigguratico could not be fit on page. It will not be plotted.
```

```
## Warning in wordcloud(tweetscorpus, scale = c(3, 0.5), random.order =
## TRUE, : token could not be fit on page. It will not be plotted.
```


realsheepwolf
trading
users
twitter
social
xom
cryptocurrency
great
market
businessinsider
question
facebook
eth
can
just
companies
mmm
zig
facebooks
know
need
warrenbuffethq
says
website
aapl
week
prayforme
make
ico
sbux
read
check
gundlach
new
listing
bought
zuckerberg
one
dirv
still
option
irbt
real
law
ready
use
riot
amtdâ€
spx
google
today
lookmiss
try
hal
ibm
timothysykes
will
cry
right
whr
price
tsla
cambridge
msft
best
acer
iwm
weeks
sell
year
clients
trades
help
ziggurat
now
goog
alert
silver
set
take
watch
alk
amd
ethereum
april
gdpr
time
siri
ndx
weekly
short
news
moves
mark
investment
nvda
get
top
must
options
data
review
via
see
want
msmy
stocks
auto
stock
exhange
dont
things
technology
picks
jpm
heres
amp
huge
bac
next
day
weekamzn
carriage
active
buy
train
looking
big
guides
btc
people
ether
pypl
report
uita
last
live
like
baba
cryptocu
lmt
daily
tech
ahead
fbâ€
ads
tuesday
analytica
qqq
cat
tokens
nflx
inc
table
abbv
csco
long
fang
snap
high
group
conference
sohn
update
hiph
qcom
nasdaq
traders
ewhispers
hear
shares
money
fusz
earnings
ceo
spy
bitcoin
whos
beating
crypto
jump
cheap
trade
free
wynn
cldc
think
user
telegram
privacy
googl
amzn
intc
twtr
blockchain
roadmap