```r
1   library(magrittr)
2   library(dplyr)
3   library(ggplot2)
4   library(readr)
5   library(fitdistrplus)
6   library(DAAG)
7   library("ggplot2")
8   library(anytime)
9
10  tierion <- read_delim('C:/Users/ygaoq/OneDrive/MyDocuments/2019 Spr
11  names(tierion) <- c('fromID', 'toID', 'unixTime', 'tokenAmount')
12  decimals <- 10^8
13  supply <- 1 * 10^9
14  tierionFiltered <-filter(tierion ,tokenAmount < decimals * supply)
    #filter out all outliers
15
16  #figure out how many users indruced those unnormal transcation
17  tierion_outliers<- filter(tierion ,tokenAmount >= decimals * supply)
18  user_outliers <- tierion_outliers %>% group_by(toID) %>% summarise(
19  number_users_outliers<-nrow(user_outliers)
20  number_users_outliers
21
22  #get top X buyers data
23  buys<-tierionFiltered%>% group_by(toID) %>% summarise(n = n()) %>%
24  buys_sorted_dec<-buys[order(-buys$n),]
25  #top 30 active buyers and number of buys
26  top 30 buyers< buys sorted dec%>%head(30)
```