```
library(stringr)
pairs=read.table(file="https://raw.githubusercontent.com/philipperemy/FX-1-Minute-Data/master/pairs.csv",header=TRUE)
```

#2

```
pairs$currency_pair_name <- str_split(pairs$currency_pair_name, "/",simplify=TRUE)[,1]
```

#3

```
new<-str_split(pairs$currency_pair_name, "/",simplify=TRUE)
colnames(new)<-c("foreign_ccy","domestic_ccy")
new[,1]
```

```
#5
mat<-as.data.frame(new)
pairs$foreign_ccy<-mat$foreign_ccy
pairs$domestic_ccy<-mat$domestic_ccy

#6 Add Filter USD here
pairs_usd<-transmute(pairs,foreign_ccy,domestic_ccy)
head(pairs_usd)

#7
pair_d<-group_by(pairs,domestic_ccy)
domestic_count <-summarise(pair_d,n=n())
domestic_count


#8
Countplot <- ggplot(domestic_count,aes(x=domestic_ccy, y=n)) + geom_bar(stat="identity")
print(Countplot + ggtitle("Count of Pairs"))

#9
old_data<-filter(pairs,history_first_trading_month<201001)
new_data<-filter(pairs,history_first_trading_month>=201001)

#10

#11
sc <- spark_connect(master = "local")
pairs_tbl <- copy_to(sc, pairs)

#12
excahangeable<-select(pairs_tbl,foreign_ccy,domestic_ccy)
transmute(excahangeable,src=foreign_ccy,dst=domestic_ccy)
```

#13
sr<-transmute(exchangeable,src=foreign_ccy,dst=domestic_ccy)
allccy_from<-sr%>%
distinct(src)%>%
transmute(id=src)
allccy_from

allccy_to<-sr%>%
distinct(dst)%>%
transmute(id=dst)
allccy_to
allccy<-distinct(sdf_bind_rows(allccy_from,allccy_to))

#9
old_data<-filter(pairs,history_first_trading_month<201001)
new_data<-filter(pairs,history_first_trading_month>=201001)

```
Using the "pairs" dataframe, create a new dataframe "domestic_count_oldnew" which
has three columns, "domestic_ccy", "oldnew", and "n", to show the count of old
pairs and new pairs for each domestic_ccy. If "history_first_trading_month" less
than 201001, the column "oldnew" is "old", i.e., meaning old pair, if greater than
201001, the column "oldnew" is "new", meaning new pair.

The data has three columns

currency_pair_name    currency_pair_code    history_first_trading_month

EUR/USD    eurusd    200005

EUR/CHF    eurchf    200203

EUR/GBP    eurgbp    200203
```

```
pairs$oldnew <- ifelse(pairs$history_first_trading_month<=201001, "old",
"new")
```

Domestic <-group_by(pairs,domestic_ccy,oldnew)
Domestic_count <- summarise(Domestic,n=n())
domestic_count