tables-frequency

```
library(tidyverse)
# fct_inorder is in tidyverse
id<- str_c("SD",101:110,sep="")
ltrgrades <- c("C+","F","B","A+","B","B-","A","C","B-","B-")
gdlevels <- fct_inorder(c("A+","A","A-","B+","B","B-","C+","C","D+","D","F"))
gender <- factor(c("M","F","F","F","M","F","M","M","M","M"))

lgrades <- factor(ltrgrades, levels=gdlevels)
df <- tibble(id,gender, lgrades)
df
```

```
# A tibble: 10 x 3
   id    gender lgrades
   <chr> <fct>  <fct>
 1 SD101 M      C+
 2 SD102 F      F
 3 SD103 F      B
 4 SD104 F      A+
 5 SD105 M      B
 6 SD106 F      B-
 7 SD107 M      A
 8 SD108 M      C
 9 SD109 M      B-
10 SD110 M      B-
```

1. Frequency table (also called a contingency table)

```
# use table function to count frequency in lgrades
tab1 <- table(df$lgrades)
tab1
```

```
A+  A A- B+  B B- C+  C D+  D  F
 1  1  0  0  2  3  1  1  0  0  1
```

```
# redo table back into a dataframe
df2 <- data.frame(tab1)
names(df2) <- c("grades","freq")
df2
```

```
   grades freq
1      A+    1
2       A    1
3      A-    0
4      B+    0
5       B    2
6      B-    3
7      C+    1
8       C    1
9      D+    0
10      D    0
11      F    1
```

2. Two-way Contingency table (`gender-grades`)

```
twoWay <- table(df$gender,df$lgrades)
twoWay
```

```
    A+ A A- B+ B B- C+ C D+ D F
  F  1 0  0  0 1  1  0 0  0 0 1
  M  0 1  0  0 1  2  1 1  0 0 0
```

3. Look up - `slice`

find those that have B-

```
filter(df,lgrades=="B-")
```

```
# A tibble: 3 x 3
  id    gender lgrades
  <chr> <fct>  <fct>
1 SD106 F      B-
2 SD109 M      B-
3 SD110 M      B-
```