R Notebook

```
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
```

```
print(starwars %>% filter(species == "Droid"))
```

```
## # A tibble: 6 x 14
##   name    height  mass hair_color skin_color eye_c~1 birth~2 sex   gender homew~3
##   <chr>    <int> <dbl> <chr>      <chr>      <chr>     <dbl> <chr> <chr>  <chr>
## 1 C-3PO      167    75 <NA>       gold       yellow      112 none  mascu~ Tatooi~
## 2 R2-D2       96    32 <NA>       white, bl~ red          33 none  mascu~ Naboo
## 3 R5-D4       97    32 <NA>       white, red red          NA none  mascu~ Tatooi~
## 4 IG-88      200   140 none       metal      red          15 none  mascu~ <NA>
## 5 R4-P17      96    NA none       silver, r~ red, b~      NA none  femin~ <NA>
## 6 BB8         NA    NA none       none       black        NA none  mascu~ <NA>
## # ... with 4 more variables: species <chr>, films <list>, vehicles <list>,
## #   starships <list>, and abbreviated variable names 1: eye_color,
## #   2: birth_year, 3: homeworld
```

```
library(tidyr)
```

```
## Warning: package 'tidyr' was built under R version 4.2.3
```

```
n = 10
```

```
df1 = data.frame(S.No = c(1:n),Group.1 = c(23, 345, 76, 212, 88,199, 72, 35, 90,265),Group.2 = c(117, 89
```

```
head(df1)
```

```
##   S.No Group.1 Group.2 Group.3
## 1    1      23     117      29
## 2    2     345      89     101
## 3    3      76      66     239
## 4    4     212     334     289
## 5    5      88      90     176
## 6    6     199     101     320
```

```r
df2 <- df1 %>%gather(Group, Frequency,Group.1:Group.3)

df2
```

```
##    S.No   Group Frequency
## 1     1 Group.1        23
## 2     2 Group.1       345
## 3     3 Group.1        76
## 4     4 Group.1       212
## 5     5 Group.1        88
## 6     6 Group.1       199
## 7     7 Group.1        72
## 8     8 Group.1        35
## 9     9 Group.1        90
## 10   10 Group.1       265
## 11    1 Group.2       117
## 12    2 Group.2        89
## 13    3 Group.2        66
## 14    4 Group.2       334
## 15    5 Group.2        90
## 16    6 Group.2       101
## 17    7 Group.2       178
## 18    8 Group.2       233
## 19    9 Group.2        45
## 20   10 Group.2       200
## 21    1 Group.3        29
## 22    2 Group.3       101
## 23    3 Group.3       239
## 24    4 Group.3       289
## 25    5 Group.3       176
## 26    6 Group.3       320
## 27    7 Group.3        89
## 28    8 Group.3       109
## 29    9 Group.3       199
## 30   10 Group.3        56
```

```r
library(stringr)
```

```
## Warning: package 'stringr' was built under R version 4.2.3
```

```r
cat("The length of the word Jai Sairam'Jai Sairam' is : ", str_length("Jai Sairam"))
```

```
## The length of the word Jai Sairam'Jai Sairam' is :  10
```

```r
library(forcats)
```

```
## Warning: package 'forcats' was built under R version 4.2.3
```

```r
library(dplyr)
library(ggplot2)

print(head(starwars %>% filter(!is.na(species))
           %>% count(species, sort = TRUE)))
```

```
## # A tibble: 6 x 2
##   species       n
##   <chr>     <int>
## 1 Human        35
## 2 Droid         6
## 3 Gungan        3
## 4 Kaminoan      2
## 5 Mirialan      2
## 6 Twi'lek       2
```

```r
library(tibble)
df3 <- data.frame(a = 1:3, b = letters[1:3],
                  c = Sys.Date() - 1:3)
print(df3)
```

```
##   a b          c
## 1 1 a 2023-04-30
## 2 2 b 2023-04-29
## 3 3 c 2023-04-28
```

```r
df4 <- iris
as_tibble(df4)
```

```
## # A tibble: 150 x 5
##    Sepal.Length Sepal.Width Petal.Length Petal.Width Species
##           <dbl>       <dbl>        <dbl>       <dbl> <fct>
##  1          5.1         3.5          1.4         0.2 setosa
##  2          4.9         3            1.4         0.2 setosa
##  3          4.7         3.2          1.3         0.2 setosa
##  4          4.6         3.1          1.5         0.2 setosa
##  5          5           3.6          1.4         0.2 setosa
##  6          5.4         3.9          1.7         0.4 setosa
##  7          4.6         3.4          1.4         0.3 setosa
##  8          5           3.4          1.5         0.2 setosa
##  9          4.4         2.9          1.4         0.2 setosa
## 10          4.9         3.1          1.5         0.1 setosa
## # ... with 140 more rows
```

```r
df5 <- 1:10

print(df5)
```

```
##  [1]  1  2  3  4  5  6  7  8  9 10
```

```r
tibble(df5, df5*5)
```

```
## # A tibble: 10 x 2
##     df5 `df5 * 5`
##   <int>     <dbl>
## 1     1         5
## 2     2        10
```

```
##  3        3         15
##  4        4         20
##  5        5         25
##  6        6         30
##  7        7         35
##  8        8         40
##  9        9         45
## 10       10         50
```

```r
tibble(df5,df5**2)
```

```
## # A tibble: 10 x 2
##       df5 `df5^2`
##     <int>   <dbl>
##  1      1       1
##  2      2       4
##  3      3       9
##  4      4      16
##  5      5      25
##  6      6      36
##  7      7      49
##  8      8      64
##  9      9      81
## 10     10     100
```

```r
tibble(a = df5, b = df5*5, c = df5**2)
```

```
## # A tibble: 10 x 3
##         a     b     c
##     <int> <dbl> <dbl>
##  1      1     5     1
##  2      2    10     4
##  3      3    15     9
##  4      4    20    16
##  5      5    25    25
##  6      6    30    36
##  7      7    35    49
##  8      8    40    64
##  9      9    45    81
## 10     10    50   100
```

```r
print(as_tibble(mtcars))
```

```
## # A tibble: 32 x 11
##      mpg   cyl  disp    hp  drat    wt  qsec    vs    am  gear  carb
##    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>
## 1   21       6   160   110  3.9   2.62  16.5     0     1     4     4
## 2   21       6   160   110  3.9   2.88  17.0     0     1     4     4
## 3   22.8     4   108    93  3.85  2.32  18.6     1     1     4     1
## 4   21.4     6   258   110  3.08  3.22  19.4     1     0     3     1
## 5   18.7     8   360   175  3.15  3.44  17.0     0     0     3     2
## 6   18.1     6   225   105  2.76  3.46  20.2     1     0     3     1
```

```
## 7  14.3      8 360    245 3.21 3.57 15.8     0     0     3     4
## 8  24.4      4 147.    62 3.69 3.19 20       1     0     4     2
## 9  22.8      4 141.    95 3.92 3.15 22.9     1     0     4     2
## 10 19.2      6 168.   123 3.92 3.44 18.3     1     0     4     4
## # ... with 22 more rows
```

```
tibble(x = runif(15),y=x*3)
```

```
## # A tibble: 15 x 2
##         x      y
##     <dbl>  <dbl>
##  1 0.195  0.584
##  2 0.384  1.15
##  3 0.412  1.23
##  4 0.928  2.78
##  5 0.276  0.828
##  6 0.711  2.13
##  7 0.571  1.71
##  8 0.924  2.77
##  9 0.764  2.29
## 10 0.830  2.49
## 11 0.0157 0.0470
## 12 0.940  2.82
## 13 0.771  2.31
## 14 0.0435 0.131
## 15 0.152  0.456
```

```
tb1 <- tibble(
    x = runif(8),
    y = rnorm(8)
)

tb1[1]
```

```
## # A tibble: 8 x 1
##        x
##    <dbl>
## 1 0.519
## 2 0.0865
## 3 0.648
## 4 0.441
## 5 0.949
## 6 0.515
## 7 0.898
## 8 0.615
```

```
tb1 %>% .$x
```

```
## [1] 0.51851042 0.08646815 0.64824401 0.44105756 0.94868012 0.51450594 0.89786393
## [8] 0.61499272
```

```r
x<-5
tibble(x=6,y=x)
```

```
## # A tibble: 1 x 2
##       x     y
##   <dbl> <dbl>
## 1     6     6
```

```r
tibble(x=6,y = !!x)
```

```
## # A tibble: 1 x 2
##       x     y
##   <dbl> <dbl>
## 1     6     5
```