HW5

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2024-06-22

```
library(readr)
library(ggplot2)
library(tidyverse)
```

```
## -- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
## v dplyr     1.1.3     v stringr   1.5.1
## v forcats   1.0.0     v tibble    3.2.1
## v lubridate 1.9.3     v tidyr     1.3.0
## v purrr     1.0.2
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

```
library(stringr)
```

Task 1: Seperating on Species / Genus

```
getwd()
```

```
## [1] "/Users/emmahorton/DataScience/DataViz/Homework/HW5"
```

```
path <- file.path( "/Users/emmahorton/DataScience/DataViz/datasets/SharksOriginalDataset.csv")
sharks <- read.csv(path)
head(sharks)
```

```
##               Species Specimen..sex..side.  TL UJL LJL UDL LDL   A1   A2
## 1 Mitsukurina owstoni    CAS 113888 (F; L) 120 120 106 100  88 11.7 15.0
## 2 Mitsukurina owstoni      MCZ 1279 (F; R) 110 116  99  99  80 10.0 10.9
## 3 Mitsukurina owstoni    NMNH 50972 (F; L) 335 320 266 265 211 21.5 25.0
## 4    Odontaspis ferox    BPBM 9335 (M?; L) 297 288 241 230 188 20.7 26.9
## 5    Odontaspis ferox    SIO 80-255 (?; L) 214 214 188 189 165 17.9 22.6
## 6 Odontaspis noronhai   HUMZ 110959 (M; R) 217 237 225 193 179 15.0 18.5
```

```
#distinct(sharks, sharks$Species)
#distinct(sharks, sharks$Specimen..sex..side.)
```

```
sharks <- sharks %>%
  mutate(
    Genus = str_split_fixed(Species, " ", 2)[, 1],
    Species = str_split_fixed(Species, " ", 2)[, 2]
  ) %>%
  select(Genus, Species, Specimen..sex..side., TL, A1)

print(sharks)
```

```
##              Genus       Species  Specimen..sex..side.  TL   A1
## 1       Mitsukurina       owstoni     CAS 113888 (F; L) 120 11.7
## 2       Mitsukurina       owstoni       MCZ 1279 (F; R) 110 10.0
## 3       Mitsukurina       owstoni     NMNH 50972 (F; L) 335 21.5
## 4        Odontaspis         ferox     BPBM 9335 (M?; L) 297 20.7
## 5        Odontaspis         ferox     SIO 80-255 (?; L) 214 17.9
## 6        Odontaspis      noronhai    HUMZ 110959 (M; R) 217 15.0
## 7  Pseudocarcharias     kamoharai      CAS 58069 (F; R)  96  9.7
## 8  Pseudocarcharias     kamoharai     LACM 45857 (F; R)  92  9.0
## 9           Alopias     pelagicus    FMNH 117473 (F; R) 169  1.5
## 10          Alopias     pelagicus LACM 38116-39a (F; L) 179  2.2
## 11          Alopias     pelagicus LACM 38116-39b (F; L) 241  3.8
## 12          Alopias     pelagicus  LACM 38116-40 (M; L) 170  2.7
## 13          Alopias superciliosus      CAS 76134 (M; L) 325 14.9
## 14          Alopias      vulpinus      CAS 65976 (F; L) 155  2.9
## 15          Alopias      vulpinus   LACM 39325-1 (?; L) 356  6.4
## 16          Alopias      vulpinus   LACM 39342-1 (M; L) 131  1.6
## 17          Alopias      vulpinus      MCZ 36089 (?; L) 397  8.2
## 18       Carcharias        taurus   AMNH 79962SD (M; L) 241 21.0
## 19       Carcharias        taurus   LACM 39334-2 (F; R) 273 23.3
## 20       Carcharias        taurus   LACM 39335-1 (M; R) 112 10.3
## 21       Carcharias        taurus   LACM 39336-4 (M; L) 148 14.0
## 22            Lamna      ditropis      CAS 26683 (M; L) 206 11.8
## 23            Lamna      ditropis     CAS 112656 (M; L)  92  8.4
## 24            Lamna         nasus      MCZ 36251 (?; R) 165 10.1
## 25            Lamna         nasus      MCZ 36253 (?; R) 104  7.8
## 26            Lamna         nasus      MCZ 36257 (?; R) 132  8.9
## 27            Lamna         nasus      MCZ 36258 (?; R) 152 10.4
## 28           Isurus    oxyrinchus   LACM 32667-1 (F; R) 351 34.4
## 29           Isurus    oxyrinchus   LACM 39338-1 (M; L) 121 11.7
## 30           Isurus        paucus      UF 160174 (M; R) 117 11.3
## 31      Carcharodon    carcharias   LACM 39474-1 (M; R) 165 14.5
## 32      Carcharodon    carcharias     SIO 55-95g (F; R) 181 16.3
## 33      Carcharodon    carcharias   'GH-Car1-13 (M; R)* 379 33.0
## 34      Carcharodon    carcharias   'GH-Car1-19 (F; R)* 594 48.8
```

Task 2: Seperating on sex

```
sharks <- sharks %>%
  mutate(
    Sex = case_when(
      str_detect(Specimen..sex..side., "\\bF[?;]") ~ "F",
      str_detect(Specimen..sex..side., "\\bM[?;]") ~ "M",
      TRUE ~ NA_character_
    )
  ) %>%
  select(Genus, Species, Sex, TL, A1)

sharks
```

```
##              Genus       Species  Sex  TL   A1
## 1       Mitsukurina       owstoni    F 120 11.7
## 2       Mitsukurina       owstoni    F 110 10.0
## 3       Mitsukurina       owstoni    F 335 21.5
## 4        Odontaspis         ferox    M 297 20.7
```

```
## 5        Odontaspis         ferox <NA> 214 17.9
## 6        Odontaspis      noronhai    M 217 15.0
## 7  Pseudocarcharias     kamoharai    F  96  9.7
## 8  Pseudocarcharias     kamoharai    F  92  9.0
## 9           Alopias     pelagicus    F 169  1.5
## 10          Alopias     pelagicus    F 179  2.2
## 11          Alopias     pelagicus    F 241  3.8
## 12          Alopias     pelagicus    M 170  2.7
## 13          Alopias superciliosus    M 325 14.9
## 14          Alopias      vulpinus    F 155  2.9
## 15          Alopias      vulpinus <NA> 356  6.4
## 16          Alopias      vulpinus    M 131  1.6
## 17          Alopias      vulpinus <NA> 397  8.2
## 18       Carcharias        taurus    M 241 21.0
## 19       Carcharias        taurus    F 273 23.3
## 20       Carcharias        taurus    M 112 10.3
## 21       Carcharias        taurus    M 148 14.0
## 22            Lamna      ditropis    M 206 11.8
## 23            Lamna      ditropis    M  92  8.4
## 24            Lamna         nasus <NA> 165 10.1
## 25            Lamna         nasus <NA> 104  7.8
## 26            Lamna         nasus <NA> 132  8.9
## 27            Lamna         nasus <NA> 152 10.4
## 28           Isurus    oxyrinchus    F 351 34.4
## 29           Isurus    oxyrinchus    M 121 11.7
## 30           Isurus        paucus    M 117 11.3
## 31      Carcharodon    carcharias    M 165 14.5
## 32      Carcharodon    carcharias    F 181 16.3
## 33      Carcharodon    carcharias    M 379 33.0
## 34      Carcharodon    carcharias    F 594 48.8
```