HW(1)

Yassine Dahbi

02/07/2022

#Run this code first

If you don't know the answer, leave it blank. If you are caught cheating, you will be given minus 50 points.

Q1. Replace the author name with your name in YAML part above.

Q2. Store five values `82.0, 31.2, 98.2, 19.4, 72.6` into the `scores` variable.

```
scores <- c(82.0, 31.2, 98.2, 19.4, 72.6)
```

Q3. Write a code that finds the minimun value of `scores` that you have created in Q2.

```
min(scores)
```

```
## [1] 19.4
```

Q4. Assign the value of 4 raised to 2 to a variable `generation`. Then, print out the value of `generation`.

```
generation <- 4^2
print(generation)
```

```
## [1] 16
```

Q5. Assign the value of square root 81 to a variable `nine`, and print out `nine`.

```
nine <- sqrt(81)
print(nine)
```

```
## [1] 9
```

Q6. Store a text `mozart` into the variable `piano`.

```
piano <- "mozart"
```

Q7. What are three components for a single plot of `ggplot2` package?

```
data + mapping + geom
```

```
## Error in eval(expr, envir, enclos): object 'mapping' not found
```

Q8. A line of code that shows `presidential` data as a table

```
View(presidential)
```

```
## Warning in system2("/usr/bin/otool", c("-L", shQuote(DSO)), stdout = TRUE):
## running command ''/usr/bin/otool' -L '/Library/Frameworks/R.framework/Resources/
```

```
## modules/R_de.so'' had status 1
```

```
## Warning in View(presidential): unable to load shared object '/Library/Frameworks/R.framework/Resourc
##   dlopen(/Library/Frameworks/R.framework/Resources/modules//R_de.so, 0x0006): Library not loaded: /o
##   Referenced from: /Library/Frameworks/R.framework/Versions/4.1-arm64/Resources/modules/R_de.so
##   Reason: tried: '/opt/X11/lib/libSM.6.dylib' (no such file), '/Library/Frameworks/R.framework/Resou
```

```
## Error in View(presidential): X11 dataentry cannot be loaded
```

Q9. Create a matrix with 4 rows that contain the numbers 1 up to 12

```
#remove this comment and answer here
```

Q10. A line of code that assigns `displ` column as `x-axis` and `hwy` column as `y-axis` of `mpg` data to a variable `mpg_plot` using `ggplot2` package

```
mpg_plot <- ggplot(data = mpg, aes(x = displ, y = hwy))
```

Q11. Two lines of code that create a scatter plot of a variable `mpg_plot` that you have made in Q10

```
myplot +
 geom_point()
```

```
## Error in eval(expr, envir, enclos): object 'myplot' not found
```

Q12. Three lines of code that create subplots (four rows) by `class` column, using two lines of code for Q10.

```
myplot +
 geom_point() +
 facet_wrap(~class,nrow=4)
```

```
## Error in eval(expr, envir, enclos): object 'myplot' not found
```

Q13. A line of code that returns dimension information of `presidential` data

```
dim(presidential)
```

```
## [1] 11  4
```

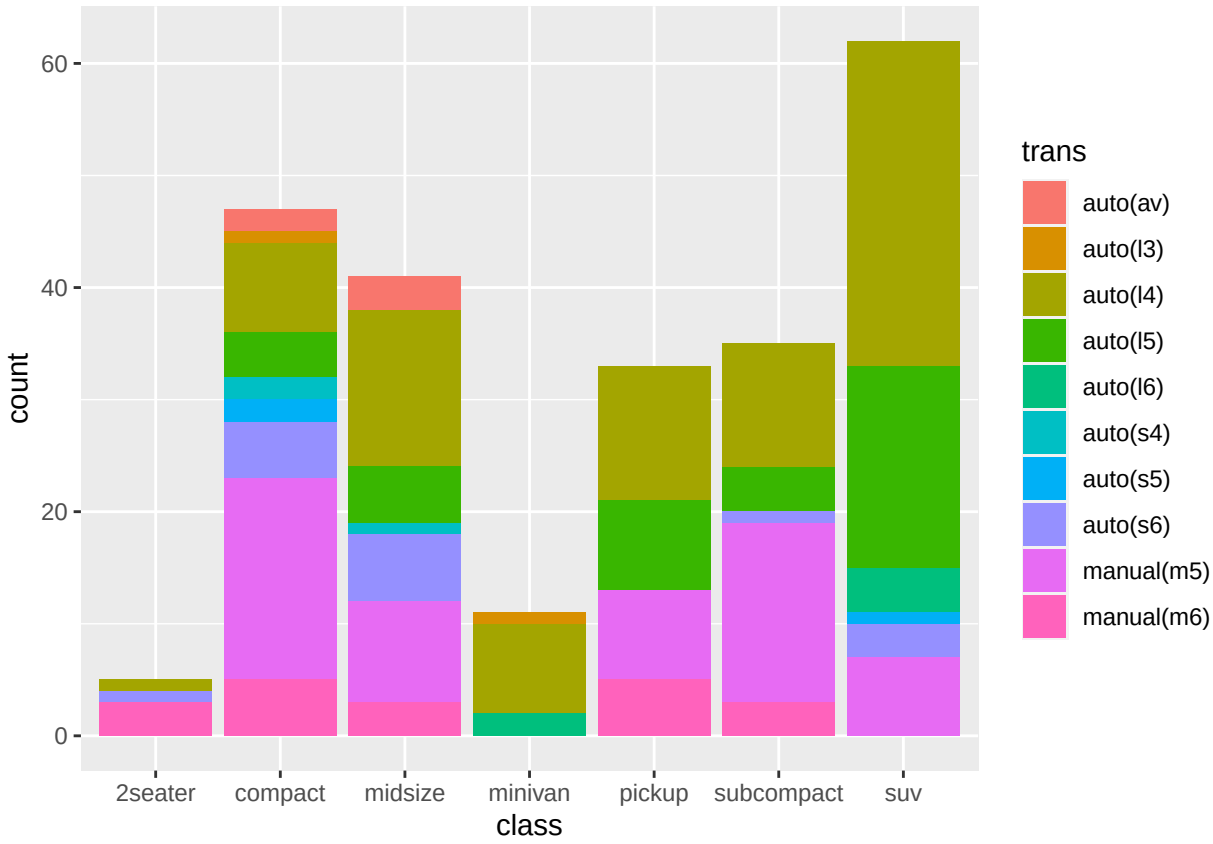
Q14. What are the unique values of `party` column of `presidential` data?

```
unique(presidential$party)
```

```
## [1] "Republican" "Democratic"
```

Q15. Two lines of code that will directly create a simple stacked bar plot that shows the count by `class` column of `mpg` data with filling color by `trans` column

```
 ggplot(data = mpg, aes(x = class, fill = trans)) +
   geom_bar()
```



Q16. A line of code that assigns `state` column as `x` position of `midwest` data to a variable `midwest_plot` using `ggplot2` package

```
myplot <- ggplot(data = midwest, aes(x = state, y = popasian))
```

Q17. Five lines of code that will return a bar plot of the `midwest_plot` variable with a title `Plot of count by state`. X-axis is labeled as `state` and y-axis as `count`.

```
midwest_plot +
geom_bar() +
ggtitle("Plot of count by state") +
  xlab("state") +
ylab("count")
```

```
## Error in eval(expr, envir, enclos): object 'midwest_plot' not found
```

Q18. What is the name of 7th column of `diamonds` dataset?

Q19. How many columns and rows does `midwest` data have?

```
ncol(midwest)
```

```
## [1] 28
```

Q20. Two different commands for a quick overview of `mpg` data that we have learned in our class

```
summary(mpg)
```

```
##  manufacturer          model               displ            year
##  Length:234         Length:234         Min.   :1.600   Min.   :1999
##  Class :character   Class :character   1st Qu.:2.400   1st Qu.:1999
##  Mode  :character   Mode  :character   Median :3.300   Median :2004
```

```
##                                      Mean   :3.472   Mean   :2004
##                                      3rd Qu.:4.600   3rd Qu.:2008
##                                      Max.   :7.000   Max.   :2008
##       cyl           trans               drv                cty
##  Min.   :4.000   Length:234         Length:234         Min.   : 9.00
##  1st Qu.:4.000   Class :character   Class :character   1st Qu.:14.00
##  Median :6.000   Mode  :character   Mode  :character   Median :17.00
##  Mean   :5.889                                         Mean   :16.86
##  3rd Qu.:8.000                                         3rd Qu.:19.00
##  Max.   :8.000                                         Max.   :35.00
##       hwy             fl                class
##  Min.   :12.00   Length:234         Length:234
##  1st Qu.:18.00   Class :character   Class :character
##  Median :24.00   Mode  :character   Mode  :character
##  Mean   :23.44
##  3rd Qu.:27.00
##  Max.   :44.00
```

```
str(mpg)
```

```
## tibble [234 x 11] (S3: tbl_df/tbl/data.frame)
##  $ manufacturer: chr [1:234] "audi" "audi" "audi" "audi" ...
##  $ model       : chr [1:234] "a4" "a4" "a4" "a4" ...
##  $ displ       : num [1:234] 1.8 1.8 2 2 2.8 2.8 3.1 1.8 1.8 2 ...
##  $ year        : int [1:234] 1999 1999 2008 2008 1999 1999 2008 1999 1999 2008 ...
##  $ cyl         : int [1:234] 4 4 4 4 6 6 6 4 4 4 ...
##  $ trans       : chr [1:234] "auto(l5)" "manual(m5)" "manual(m6)" "auto(av)" ...
##  $ drv         : chr [1:234] "f" "f" "f" "f" ...
##  $ cty         : int [1:234] 18 21 20 21 16 18 18 18 16 20 ...
##  $ hwy         : int [1:234] 29 29 31 30 26 26 27 26 25 28 ...
##  $ fl          : chr [1:234] "p" "p" "p" "p" ...
##  $ class       : chr [1:234] "compact" "compact" "compact" "compact" ...
```

End of document