

# Classwork

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## Friday: More Visualizations & Compose a Dynamic Flex Dashboard

### If/Else Statement

An if/else statement is a series of conditional statements to determine which code chunk to run.

```
if(statement){  
  Code Chunk 1  
} else if (statement){  
  Code Chunk 2  
} else {  
  Code Chunk 3  
}
```

### Yesterday's Questions

**Q4.** Create a new R file. Create a conditional R Shiny to either convert Miles to Kilometers (Distance), Pounds to Kilograms (Weight) or Inches to Millimeters (Height).

**Q5.** Create a new R file. Create another conditional R Shiny that will allow you to convert in both ways. For example, to either convert miles to kilometers or kilometers to miles.

**Q6.** Lets brain storm together and create a simple R Shiny base on your interest. We will have 15 minutes to do this.

## What are stocks?

Stock of a corporation, is all of the shares into which ownership of the corporation is divided. (Wikipedia)

**Q7.** Install the package 'tidyquant'.

**Q8.** Lets Explore the basics of tidyquant. What is needed for me to run the function below that is found in *tidyquant*?

```
getSymbols(Symbols = "AMZN", ## Various stock options
           src = "yahoo", ## or google
           from = "2007-01-01",
           to = "2020-01-01")
```

**Q9.** Plot line of AMZN

**Q10.** Create a R shiny using tidyquant data to display a line plot of either Google Stock, Apple Stock or Amazon Stock. Give the user the ability to display either high or low. Allow the user the ability to specify the date interval as well.

## Today's Questions

**Q1.** Create a new empty R Markdown file. Reinstall and load the `statcalpolypackage`. Also load `tidyverse`. Use the `mod9_great_players_df` to answer this question. How many games did each player score more than 15 points and how many games did they not score more than 15 points? Knit your R Markdown. How does your table look

## Using Special Effects on Tables

Install the `kableExtra` package.

### Q2. Styling Your Kable

- “striped” - makes the the table alternate colors
- “hover” - when the cursor is over a row it highlights
- “condensed” - will control the size of table in website
- “responsive” - allows for scrollablity horizontally and vertical on tablets and phones

Using all four together: - `kable_styling(bootstrap_options = c("striped", "hover", "condensed", "responsive"))`

```
mtcars %>%  
  kable() %>%  
  kable_styling(bootstrap_options =  
c("striped", "hover", "condensed", "responsive"))
```

### Q3. Font Size, Column and Row Specifications

- Font Size: `kable_styling(font_size = 7)`
- Column Specifications: `column_spec(column = 2, background = "yellow")`
- Row Specifications: `row_spec(row = 3:5, bold = TRUE, color = "green")`

```
mtcars %>%  
  kable() %>%  
  kable_styling(font_size = 7) %>%  
  column_spec(column = 0, background = "yellow") %>%  
  row_spec(row = 3:5, bold = TRUE, color = "blue")
```

### Q4. Width and Grouping

- Column Width `column_spec(column = 2, width = "30em")`
- Adding Grouping `add_header_above(c(" " = 1, "Group 1" = 2, "Group 2" = 2, "Group 3" = 2))`

```
mtcars %>%  
  kable() %>%  
  kable_styling(font_size = 7) %>%  
  column_spec(column = 2, width = "30em") %>%  
  add_header_above(c(" " = 1, "Group 1" = 2, "Group 2" = 2, "Group 3" = 2))
```

**Q5.** Run and modify this code to highlight aspects you as thought should be highlighted.

```
library(shiny)
library(tidyverse)
library(kableExtra)
ui <- fluidPage(

  # Application title
  titlePanel("mtcars"),

  sidebarLayout(
    sidebarPanel(
      sliderInput("mpg", "mpg Limit",
                  min = 11, max = 33, value = 20)
    ),
    mainPanel(
      tableOutput("mtcars_kable")
    )
  )
)

server <- function(input, output) {

  output$mtcars_kable <- function() {
    req(input$mpg)
    mtcars %>%
      filter(mpg <= input$mpg) %>%
      kable("html")
  }
}

# Run the application
shinyApp(ui = ui, server = server)
```