

Week 3 Survey

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Loading libraries

```
library(tidyverse)
```

1. Assign the value 10 to variable x

```
x <- 10
```

2. Assign names to variable called names

This is a character vector.

```
names <- c("Alex", "Bob", "Chris", "Donna")
```

3. Which value is greater?

The first expression is greater.

```
(log10(5^5) / 2)
```

```
## [1] 1.747425
```

```
pi / 2
```

```
## [1] 1.570796
```

4. Storing logical value

```
test <- (log10(5^5) / 2) > pi / 2
```

5. Describe differences in data types

- **Scalars** are just a single variable
- **Vectors** are a collection of items of the same type - similar to lists but they can only hold one class
- **Lists** are a collection of any type of objects
- **Matrices** are two dimensional collections of data all of the same class
- **Data frames** are also two dimensional but can hold any type of data

6. Create a list

```
collection <- list(x, names, test)
collection

## [[1]]
## [1] 10
##
## [[2]]
## [1] "Alex" "Bob" "Chris" "Donna"
##
## [[3]]
## [1] TRUE
```

7. Create data frame

```
# Making vectors of the data
new_names <- c("Alex", "Bob", "Chris", "Donna")
age <- c(25, 21, 29, 32)
likes_pizza <- c(TRUE, TRUE, FALSE, FALSE)

# Creating tibble
pizza <- tibble(name = new_names, Age = age, likes_pizza = likes_pizza)
pizza

## # A tibble: 4 x 3
##   name    Age likes_pizza
##   <chr> <dbl> <lgl>
## 1 Alex    25 TRUE
## 2 Bob     21 TRUE
## 3 Chris   29 FALSE
## 4 Donna   32 FALSE
```

8. Fix column name and add column

```
# Collecting height data
height = c(65, 72, 74, 68)

pizza <- pizza %>%
```

```
rename(age = Age) %>%
mutate(height = height)
```

```
pizza
```

```
## # A tibble: 4 x 4
##   name    age likes_pizza height
##   <chr> <dbl> <lgl>         <dbl>
## 1 Alex     25 TRUE           65
## 2 Bob      21 TRUE           72
## 3 Chris    29 FALSE          74
## 4 Donna    32 FALSE          68
```

9. Create function called marketability

```
marketability <- function(age, height, likes_pizza = TRUE) {
  if (likes_pizza == TRUE) {
    score <- (height / 60) * (height / 55)^2
    score
  } else {
    score <- (height / 15) * (height / 55)^2
    score
  }
}
```

10. Which individuals shouldn't be targets of the campaign?

```
# Calculating score
alex <- marketability(25, 65)
bob <- marketability(21, 72)
chris <- marketability(29, 74, likes_pizza = FALSE)
donna <- marketability(32, 68, likes_pizza = FALSE)

# Checking to see if score is less than 6
alex < 6
```

```
## [1] TRUE
```

```
bob < 6
```

```
## [1] TRUE
```

```
chris < 6
```

```
## [1] FALSE
```

```
donna < 6
```

```
## [1] FALSE
```

Because Alex and Bob's marketability scores are less than 6, they should not be targets of the campaign.