Creating functions

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2022-11-08

Introduction to creating functions

three reasons why creating your own functions is good practice for data science.

- it allows reusing code for other parts of a project or a future project
- less error prone than copy pasting code
- code is more organized for you and others so it is easier to read
- allows deeper understanding of what your code is
- useful to add data to data frames
- allows getting specific values and requirements
- invites you to be intentional on the code that you are writing
- allows to be more in control of the outputs

Exercise 1

part 1

```
convert_pounds_to_grams <- function(pounds) {
    grams = 453.6 * pounds
    return(grams)
}
```

part 2

```
convert_pounds_to_grams <- function(pounds = 3.75) {
    grams = 453.6 * pounds
    return(grams)
}

convert_pounds_to_grams() # this requires a default value in function
```

```
## [1] 1701
```

```
convert_pounds_to_grams(3.75)
```

```
## [1] 1701
```

```r
convert_pounds_to_grams(pounds = 3.75)
```

```
## [1] 1701
```

Exercise 2

part 1

```r
get_mass_from_length_theropoda <- function(length){
  mass <- 0.73 * length ^ 3.63
  return(mass)
}

get_mass_from_length_theropoda(16)
```

```
## [1] 17150.56
```

part 2

```r
#1 method
get_mass_from_length <- function(length = 26){
  mass <- 214.44 * length ^ 1.46
  return(mass)
}

get_mass_from_length()
```

```
## [1] 24955.54
```

```r
#2 method
get_mass_from_length <- function(length, a, b){
  mass <- a * length ^ b
  return(mass)
}

get_mass_from_length(length = 26, a = 214.44, b = 1.46)
```

```
## [1] 24955.54
```

Exercise 3

```r
get_mass_from_length <- function(length, a = 39.9, b = 2.6){
  mass <- a * length ^b
  return(mass)
}

get_mass_from_length(length = 22, a = 214.44, b = 1.46)
```

```
## [1] 19554.33
```

```
get_mass_from_length(length = 16, a = 39.9, b = 2.6)
```

```
## [1] 53911.93
```

Exercise 4

```
convert_kg_to_pounds <- function(kg) {
  pounds <- 2.205 * kg
}
```

```
library(magrittr)
weight_in_pounds <- get_mass_from_length(12, 10.95, 2.64) %>%
convert_kg_to_pounds()
weight_in_pounds
```

```
## [1] 17055.37
```