Assignment b1

```
library("testthat")
library("dplyr")
library("palmerpenguins")
library("usethis")
```

Function

```
#' @title group_and_count
#' @details
#' Group the input data with specified column and count each group's occurrence
#' @param data Input data frame
#' @param ... Multiple value, the group column
#' @param count_c The count number column name, with default value cnt.
#'
#' @return A tibble with the count result
#' @md
group_and_count <- function(data, ..., count_c = "cnt") {
  group_columns <- enquos(...)
  result <- data %>%
    group_by(!!!group_columns) %>%
    summarize(!!count_c := n())
  return(result)
}
```

Example

```
test1 <- group_and_count(penguins, island)
print(test1)
```

```
## # A tibble: 3 x 2
##   island      cnt
##   <fct>     <int>
## 1 Biscoe      168
## 2 Dream       124
## 3 Torgersen    52
```

```
test2 <- group_and_count(penguins, island, sex)
```

```
## `summarise()` has grouped output by 'island'. You can override using the
## `.groups` argument.
```

```
print(test2)
```

```
## # A tibble: 9 x 3
## # Groups:   island [3]
##   island    sex      cnt
```

```
##   <fct>     <fct>  <int>
## 1 Biscoe    female    80
## 2 Biscoe    male      83
## 3 Biscoe    <NA>       5
## 4 Dream     female    61
## 5 Dream     male      62
## 6 Dream     <NA>       1
## 7 Torgersen female    24
## 8 Torgersen male      23
## 9 Torgersen <NA>       5
```

Test

```
test_that("group and count correctly count data", {
  data_df <- data.frame(
    Category = c("a", "a", "b", "b", "a", "b"),
    Product = c("m", "n", "m", "m", "n", "n")
  )

  result <- group_and_count(data_df, Category)
  expect_equal(result$Category, c("a", "b"))
  expect_equal(result$cnt, c(3, 3))
})
```

```
## Test passed
```

```
test_that("group and count correctly count data", {
  data_df <- data.frame(
    Category = c("a", "a", "b", "b", "a", NA),
    Product = c("m", "n", "m", "m", "n", "n")
  )

  result <- group_and_count(data_df, Category)
  expect_equal(result$Category, c("a", "b", NA))
  expect_equal(result$cnt, c(3, 2, 1))
})
```

```
## Test passed
```

```
test_that("group and count correctly count data", {
  data_df <- data.frame(
    Category = c("a", "a", "b", "b", "a", "a"),
    Product = c(1, 2, 3, 1, 2, 3)
  )

  result <- group_and_count(data_df, Category, Product)
  print(result)
  expect_equal(result$Category, c("a", "a", "a", "b", "b"))
  expect_equal(result$Product, c(1, 2, 3, 1, 3))
  expect_equal(result$cnt, c(1, 2, 1, 1, 1))
})
```

```
## # A tibble: 5 x 3
## # Groups:   Category [2]
##   Category Product   cnt
```

```
##   <chr>      <dbl> <int>
## 1 a              1     1
## 2 a              2     2
## 3 a              3     1
## 4 b              1     1
## 5 b              3     1
## Test passed
```