Mini-homework 5: Tidy Gradebook

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Exercise 1

```
gradebook_long <- gradebook %>%
gather(
  `Jermaine Gautreau`:`Anthony Capote`,
  key = "Name",
  value = "Grades"
)
```

Exercise 2

```
tidy_gradebook <- gradebook_long %>%
separate(
  col = Name,
  into = combine("First Name","Last Name"),
  sep = " ",
  convert = FALSE
)

tidy_gradebook %>% head()
```

```
## # A tibble: 6 x 5
##   Assignment Category `First Name` `Last Name` Grades
##   <chr>      <chr>    <chr>        <chr>        <dbl>
## 1 Homework 1 Homework Jermaine     Gautreau        85
## 2 Homework 2 Homework Jermaine     Gautreau        85
## 3 Homework 3 Homework Jermaine     Gautreau        84
## 4 Homework 4 Homework Jermaine     Gautreau        85
## 5 Homework 5 Homework Jermaine     Gautreau        88
## 6 Homework 6 Homework Jermaine     Gautreau        83
```

Exercise 3

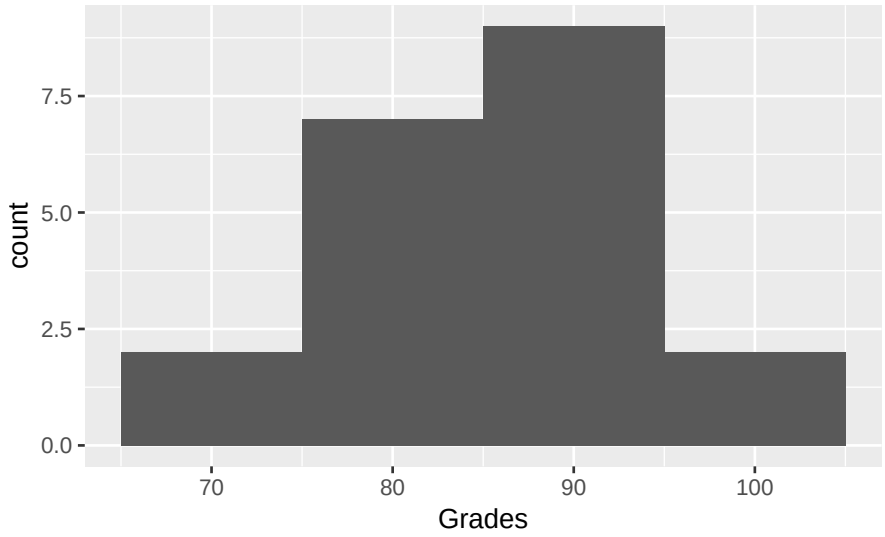
```
gradebook_no_categories <- tidy_gradebook %>%
select(
  Assignment,`First Name`:Grades
)

blackboard_gradebook <- gradebook_no_categories %>%
spread(
  key = Assignment,
```

```
    value = Grades
  )

  blackboard_gradebook %>% head()
```

```
## # A tibble: 6 x 15
##   `First Name` `Last Name` `Final Exam` `Homework 1` `Homework 2`
##   <chr>        <chr>              <dbl>        <dbl>        <dbl>
## 1 Anthony      Capote                80           94           95
## 2 Bryant       Criddle               86           93           89
## 3 Cherie       Maiden                73           76           89
## 4 Christiana   Deblois               92           79           85
## 5 Cleveland    Fromm                 84           89           81
## 6 Cliff        Vankeuren             79           76           82
## # ... with 10 more variables: `Homework 3` <dbl>, `Homework 4` <dbl>,
## #   `Homework 5` <dbl>, `Homework 6` <dbl>, `Homework 7` <dbl>, `Midterm
## #   Exam` <dbl>, `Quiz 1` <dbl>, `Quiz 2` <dbl>, `Quiz 3` <dbl>, `Quiz
## #   4` <dbl>
```

Exercise 4

```
  homework5_grades <- tidy_gradebook %>%
  filter(Assignment == "Homework 5")

  ggplot(homework5_grades) +
    geom_histogram(mapping=aes(x = Grades), binwidth = 10, center=0)
```



Exercise 5

```
  grade_weights <- tibble(
    Category = combine("Homework","Quiz","Midterm Exam","Final Exam"),
    Weight = combine(0.30, 0.20, 0.25, 0.25)
```

```
  )

  tidy_gradebook_with_weights <- tidy_gradebook %>%
    left_join(grade_weights, by = combine("Category"))
```

Exercise 6

```
  weighted_grades <- tidy_gradebook_with_weights %>%
    mutate(`Weighted Grade` = Grades * Weight)
```

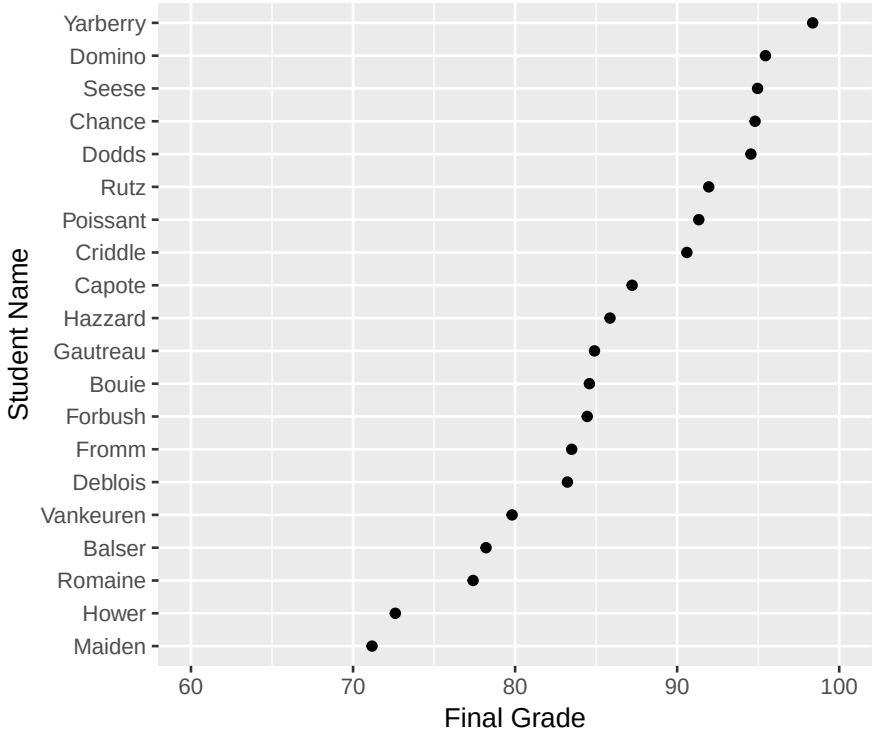
Exercise 7

```
  grades_per_category <- weighted_grades %>%
    group_by(`First Name`, `Last Name`, Category) %>%
    summarize(`Category Grade` = sum(`Weighted Grade`) / n())

  final_grades <- grades_per_category %>%
    summarize(`Final Grade` = sum(`Category Grade`))

  final_grades %>%
  head()
```

```
## # A tibble: 6 x 3
##   `First Name` `Last Name` `Final Grade`
##   <chr>        <chr>               <dbl>
## 1 Anthony      Capote               87.2
## 2 Bryant       Criddle              90.6
## 3 Cherie       Maiden               71.2
## 4 Christiana   Deblois              83.2
## 5 Cleveland    Fromm                83.5
## 6 Cliff        Vankeuren            79.8
```

Exercise 8

```
ggplot(final_grades) +
  geom_point(
    mapping = aes(
      x = `Final Grade`,
      y = fct_reorder(`Last Name`, `Final Grade`)
    )
  ) +
  labs(
    x = "Final Grade",
    y = "Student Name"
  ) +
  coord_cartesian(xlim = combine(60, 100))
```


Yarberry
Domino
Seese
Chance
Dodds
Rutz
Poissant
Criddle
Capote
Hazzard
Gautreau
Bouie
Forbush
Fromm
Deblois
Vankeuren
Balser
Romaine
Hower
Maiden
Student Name
60
70
80
90
100
Final Grade