

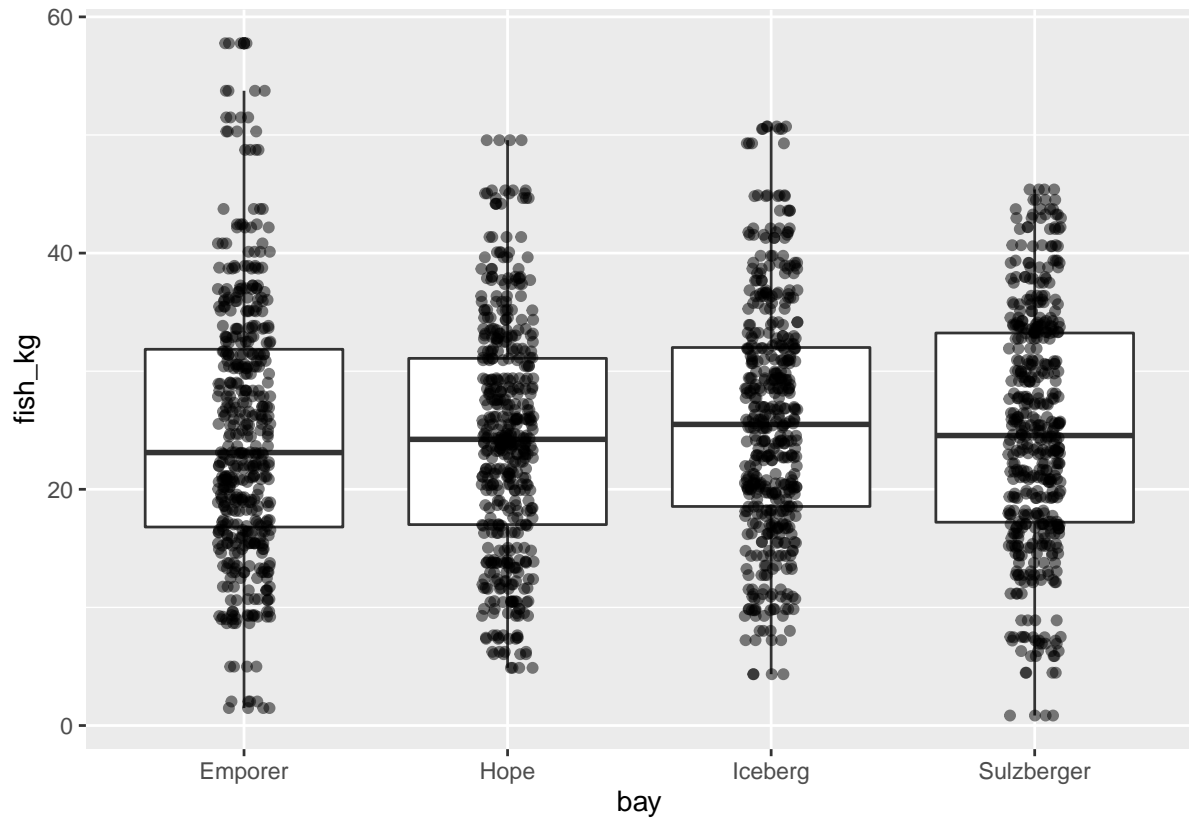
Module 3: Assignment 3

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3.

```
## # A tibble: 4 x 3
##   bay      mean_fish sd_fish
##   <chr>      <dbl>   <dbl>
## 1 Emporer      24.9    10.9
## 2 Hope         24.3     9.73
## 3 Iceberg      25.8     9.94
## 4 Sulzberger   24.9     9.98
```



4.

5.

```
##           Df Sum Sq Mean Sq F value Pr(>F)
## bay         3    542   180.6    1.751  0.155
## Residuals 1916 197625   103.1
```

8.

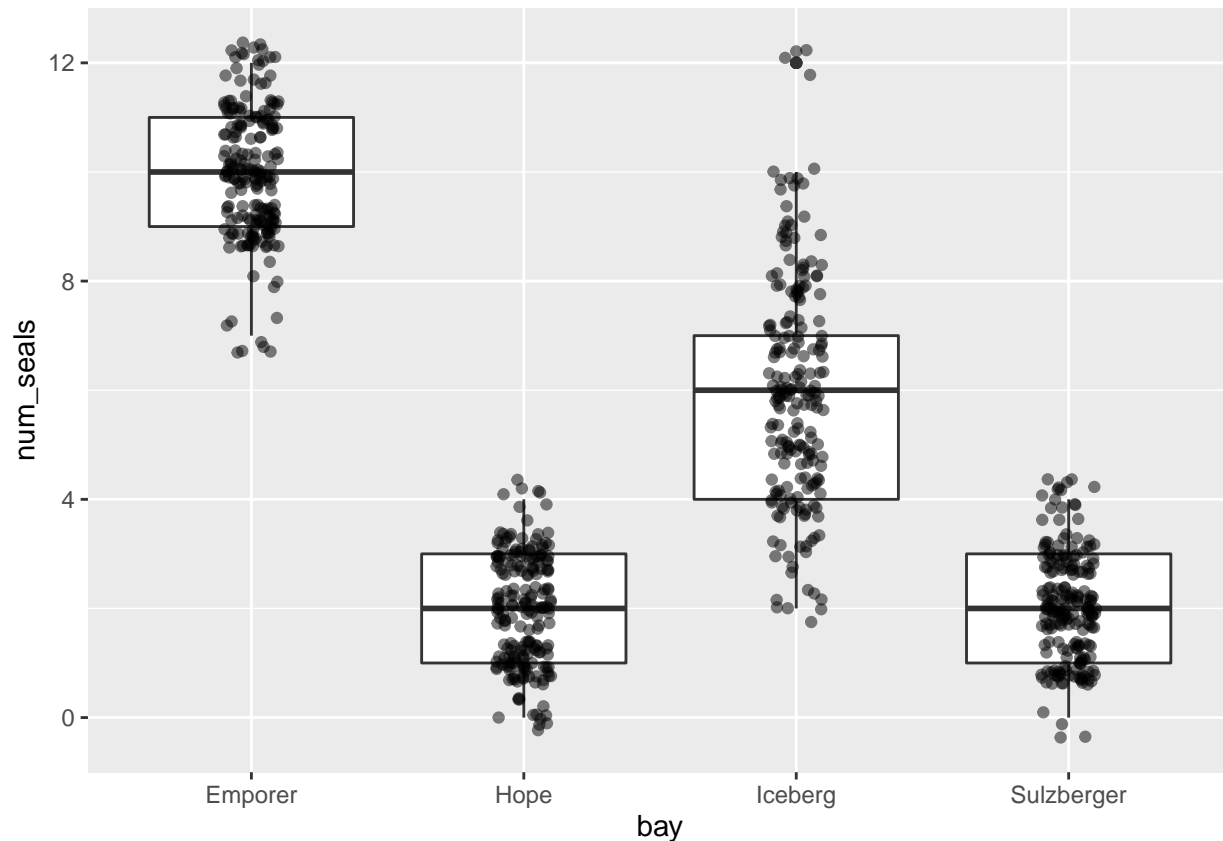
```
## Tukey multiple comparisons of means
```

```
##      95% family-wise confidence level
##
## Fit: aov(formula = fish_kg ~ bay, data = fish)
##
## $bay
##              diff          lwr          upr      p adj
## Hope-Emperor   -0.53796408 -2.2236167  1.1476886  0.8447466
## Iceberg-Emperor  0.94195591 -0.7436968  2.6276086  0.4764075
## Sulzberger-Emperor 0.04106038 -1.6445923  1.7267130  0.9999118
## Iceberg-Hope     1.47991999 -0.2057327  3.1655727  0.1085321
## Sulzberger-Hope  0.57902446 -1.1066282  2.2646771  0.8135811
## Sulzberger-Iceberg -0.90089553 -2.5865482  0.7847571  0.5157262
```

11.

```
## # A tibble: 4 x 3
##   bay      mean_fish sd_fish
##   <chr>      <dbl>   <dbl>
## 1 Emperor      9.96     1.19
## 2 Hope          1.96     1.02
## 3 Iceberg       6.02     2.13
## 4 Sulzberger    2.08     0.958
```

12.



13.

```
##              Df Sum Sq Mean Sq F value Pr(>F)
## bay           3   8682    2894    1467 <2e-16 ***
## Residuals    796   1570         2
```

```
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

15.

## Tukey multiple comparisons of means
## 95% family-wise confidence level
##
## Fit: aov(formula = num_seals ~ bay, data = seals)
##
## $bay
##              diff          lwr          upr      p adj
## Hope-Emporer    -8.00 -8.3615601 -7.6384399 0.0000000
## Iceberg-Emporer  -3.94 -4.3015601 -3.5784399 0.0000000
## Sulzberger-Emporer -7.88 -8.2415601 -7.5184399 0.0000000
## Iceberg-Hope      4.06  3.6984399  4.4215601 0.0000000
## Sulzberger-Hope   0.12 -0.2415601  0.4815601 0.8282111
## Sulzberger-Iceberg -3.94 -4.3015601 -3.5784399 0.0000000
```