AE 01: Data Viz Quick Examples

```
library(tidyverse)
```

```
-- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
v dplyr     1.1.4     v readr     2.1.4
v forcats   1.0.0     v stringr   1.5.0
v ggplot2   3.5.1     v tibble    3.2.1
v lubridate 1.9.2     v tidyr     1.3.1
v purrr     1.0.2
-- Conflicts ------------------------------------------ tidyverse_conflicts() --
x dplyr::filter() masks stats::filter()
x dplyr::lag()    masks stats::lag()
i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to becor
```

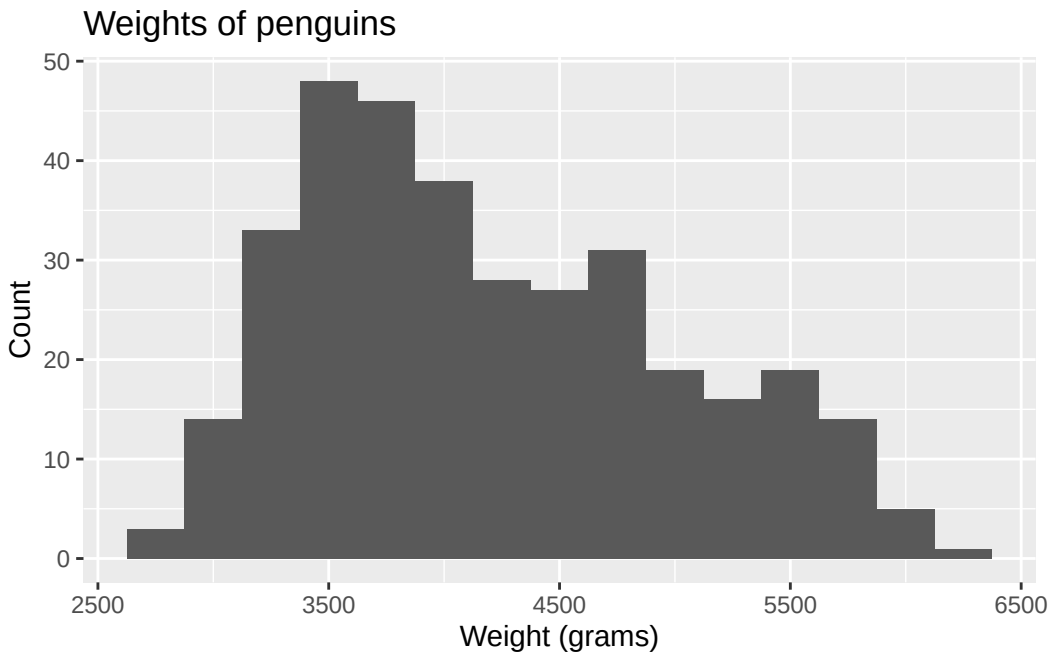
```
library(palmerpenguins)
```

Penguins visualizations

Histogram

```
ggplot(
  penguins,
  aes(x = body_mass_g)
  ) +
  geom_histogram(
    binwidth = 250
  ) +
  labs(
    title = "Weights of penguins",
    x = "Weight (grams)",
    y = "Count"
  )
```

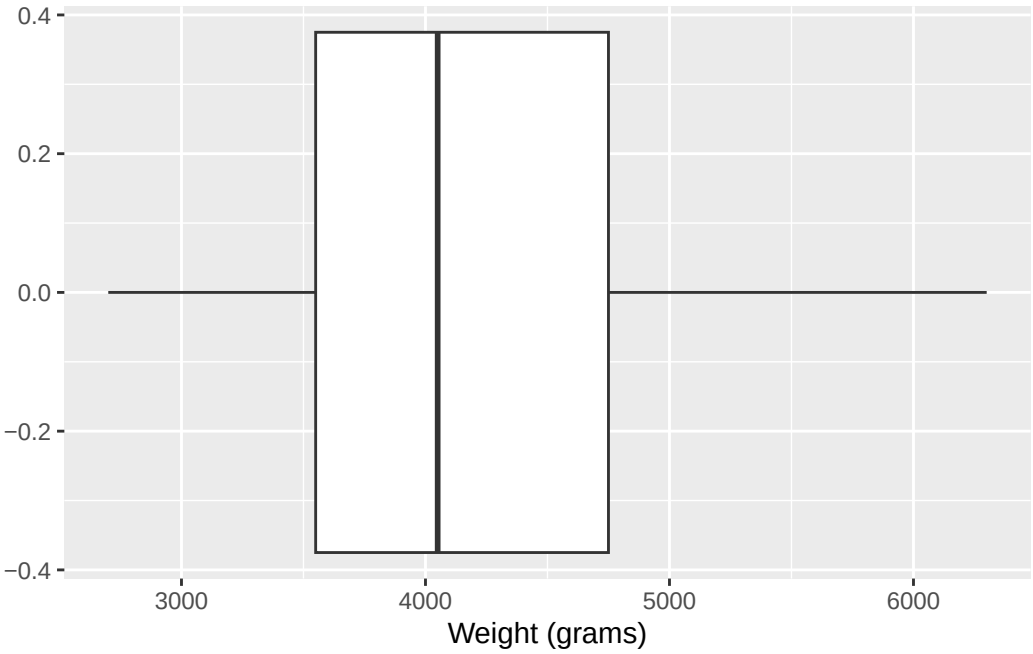
```
Warning: Removed 2 rows containing non-finite outside the scale range
(`stat_bin()`).
```



Boxplots

```
ggplot(
  penguins,
  aes(x = body_mass_g)
) +
  geom_boxplot() +
  labs(
    x = "Weight (grams)",
    y = NULL
  )
```

```
Warning: Removed 2 rows containing non-finite outside the scale range
(`stat_boxplot()`).
```



Density plot

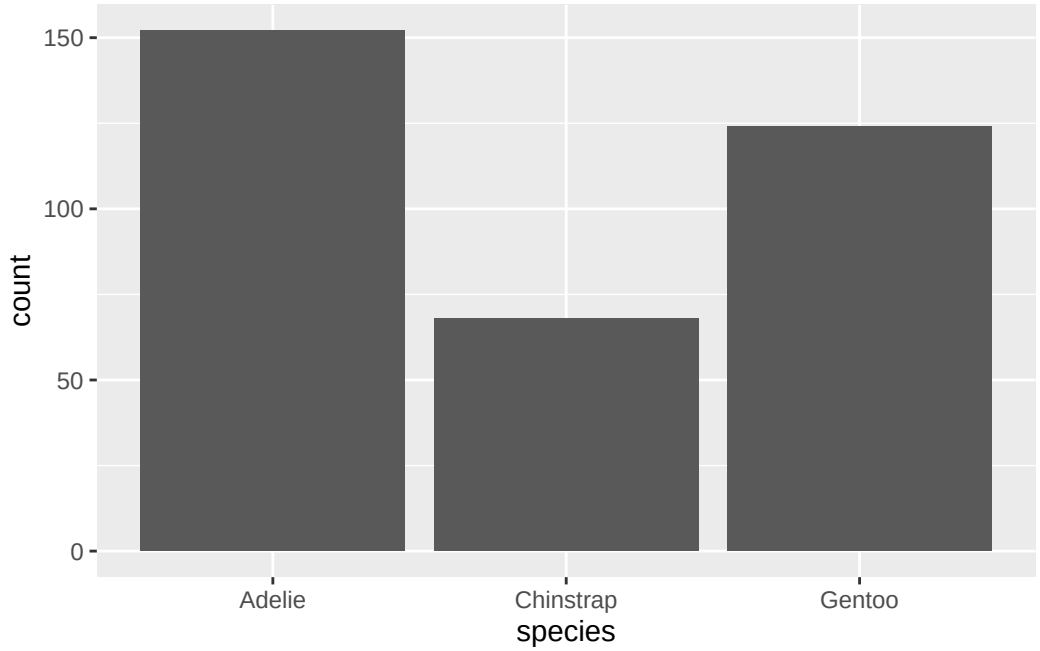
```
ggplot(
  penguins,
  aes(x = body_mass_g)
) +
  geom_density(
    fill = "darkslategray1",
    linewidth = 2,
    color = "darkorchid3",
    alpha = 0.5
  )
```

Distributions of categorical or discrete data- Species

Bar plots

```
ggplot(
  penguins,
  aes(x = species)
) +
```

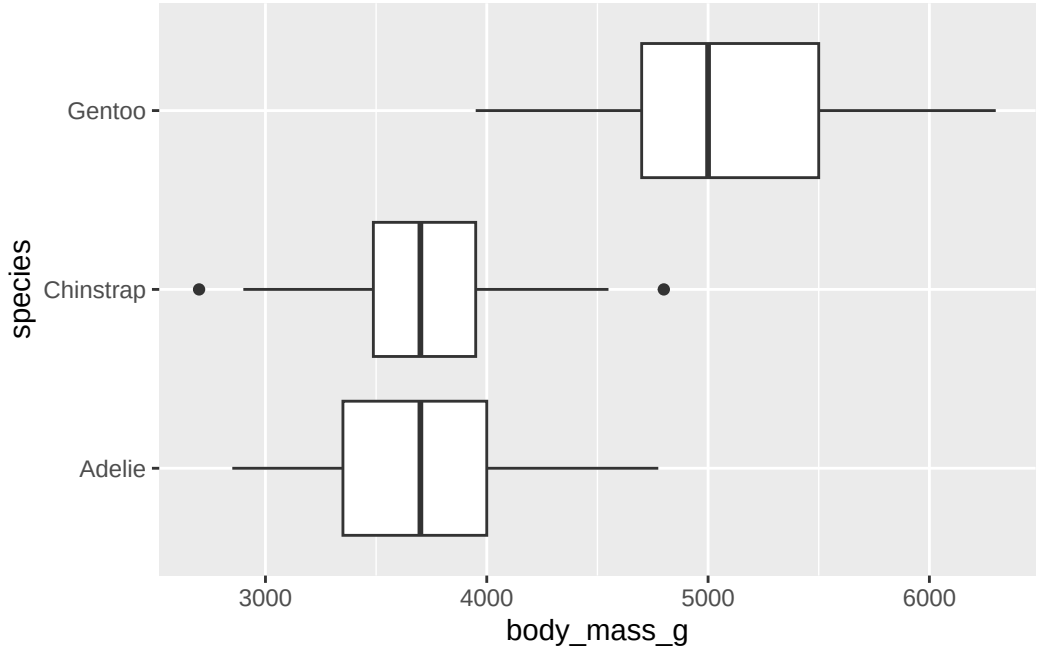
```
  geom_bar(
  )
```



Body mass and species

```
ggplot(
  penguins,
  aes(
    x = body_mass_g,
    y = species
  )
) +
  geom_boxplot()
```

```
Warning: Removed 2 rows containing non-finite outside the scale range
(`stat_boxplot()`).
```



Density plots

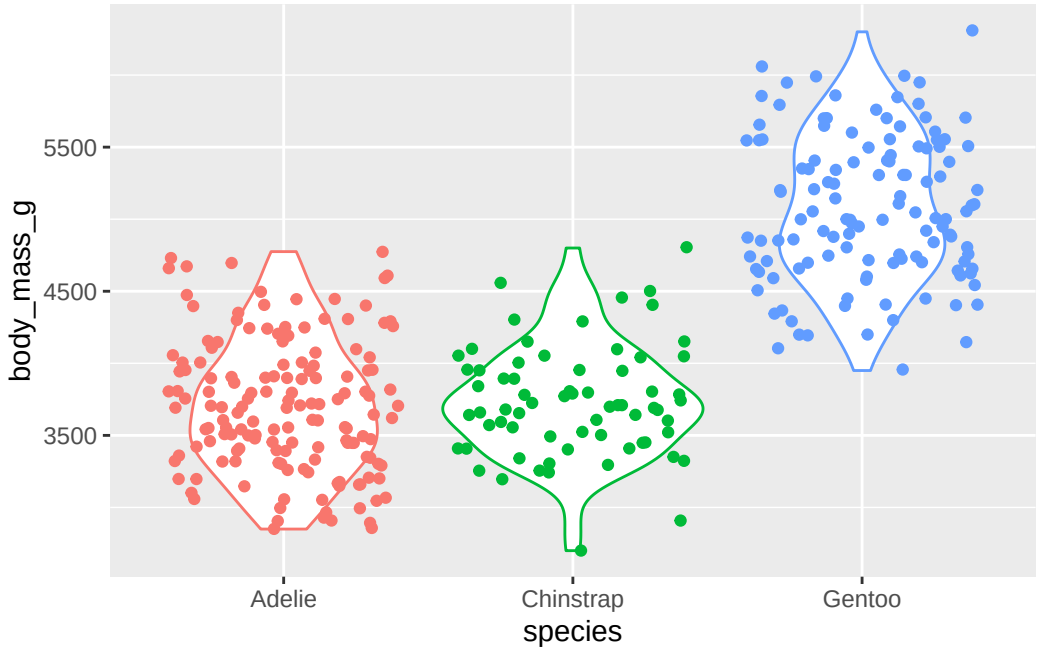
```
ggplot(
  penguins,
  aes(
    x = body_mass_g,
    color = species,
    fill = species
  )
) +
  geom_density(
    alpha = 0.5
  ) +
  theme(
    legend.position = "bottom"
  )
```

Multiple geoms + aesthetics

```r
ggplot(
  penguins,
  aes(
    x = species,
    y = body_mass_g,
    color = species
    )
  ) +
  geom_violin() +
  geom_jitter() +
  theme(
    legend.position = "none"
  )
```

```
Warning: Removed 2 rows containing non-finite outside the scale range
(`stat_ydensity()`).
```

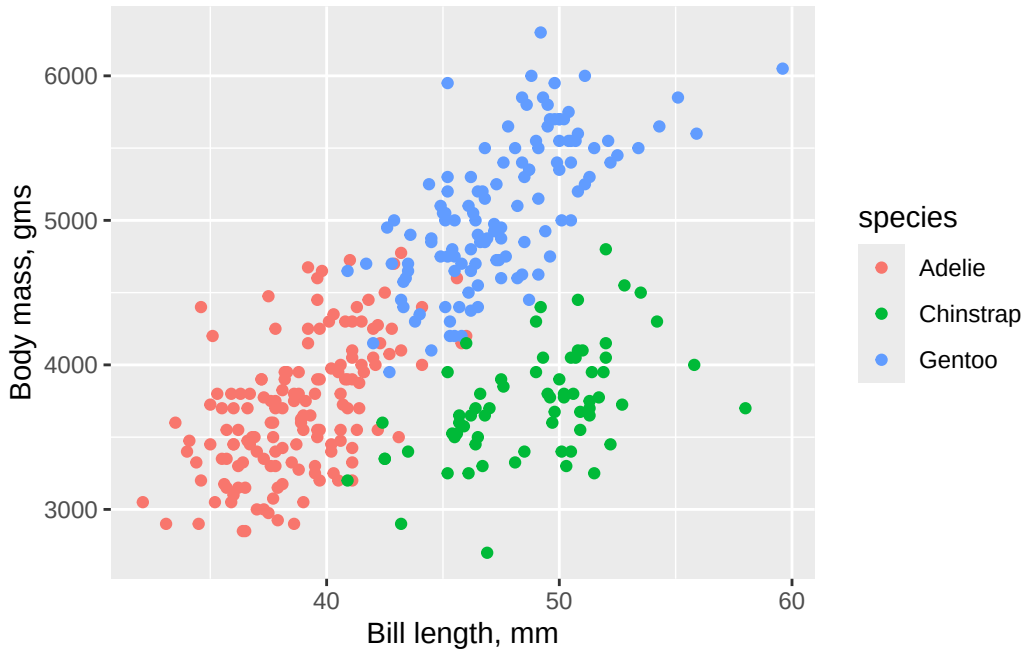
```
Warning: Removed 2 rows containing missing values or values outside the scale range
(`geom_point()`).
```



Scatterplots - Body mass and bill length

```
ggplot(
  penguins,
  aes(
    x = bill_length_mm,
    y = body_mass_g
    )
  ) +
  geom_point(aes(color = species)) +
  labs(x = "Bill length, mm", y = "Body mass, gms")
```

```
Warning: Removed 2 rows containing missing values or values outside the scale range
(`geom_point()`).
```



Two categorical variables

```
ggplot(
  penguins,
  aes(x = species)
```

```
) +
  geom_bar(aes(fill = island))
```