✓ **Congratulations! You passed!**

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1. Which of the following are operations you can perform in ggplot2? Select all that apply.

☑ Create scatterplots and bar charts

1 / 1 point

> ✓ **Correct**
> In ggplot2, you can create scatterplots and bar charts, change the colors and dimensions of your plot, and add a title and subtitle to your plot.

☐ Automatically clean data before creating a plot

☑ Add a title and subtitle to your plot

> ✓ **Correct**
> In ggplot2, you can create scatterplots and bar charts, change the colors and dimensions of your plot, and add a title and subtitle to your plot.

☑ Change the colors and dimensions of your plot

> ✓ **Correct**
> In ggplot2, you can create scatterplots and bar charts, change the colors and dimensions of your plot, and add a title and subtitle to your plot.

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2. Fill in the blank: In ggplot2, you use the _____ to add layers to your plot.

1 / 1 point

○ ampersand symbol (&)

○ pipe operator (%>%)

○ equal sign (=)

◉ plus sign (+)

> ✓ **Correct**
> In ggplot2, you use the plus sign (+) to add layers to your plot.

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3. A data analyst creates a plot using the following code chunk:

1 / 1 point

```
ggplot(data = penguins) +
   geom_point(mapping = aes(x = flipper_length_mm, y = body_mass_g))
```

Which of the following represents a function in the code chunk? Select all that apply.

☑ The aes function

> ✓ **Correct**
> The functions in the code chunk are the ggplot() function, the geom_point() function, and the aes() function. The ggplot() function specifies the data frame to use for the plot. The geom_point() function specifies the geometric object that represents the data. The aes() function specifies the aesthetic attributes of the plot.

☑ The geom_point function

> ✓ **Correct**
> The functions in the code chunk are the ggplot() function, the geom_point() function, and the aes() function. The ggplot() function specifies the data frame to use for the plot. The geom_point() function specifies the geometric object that represents the data. The aes() function specifies the aesthetic attributes of the plot.

☑ The ggplot function

> ✓ **Correct**
> The functions in the code chunk are the ggplot() function, the geom_point() function, and the aes() function. The ggplot() function specifies the data frame to use for the plot. The geom_point() function specifies the geometric object that represents the data. The aes() function specifies the aesthetic attributes of the plot.

☐ the data function

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4. In ggplot2, which of the following aesthetic attributes can you use to map variables to points? Select all that apply.

1 / 1 point

☑ Size

> ✓ **Correct**
> In ggplot2, color, shape, and size are aesthetic attributes you can use to map variables to points. Color refers to the color of the points on your plot, shape to the shape of the points, and size to the size of the points.

☑ Shape

> ✓ **Correct**
> In ggplot2, color, shape, and size are aesthetic attributes you can use to map variables to points. Color refers to the color of the points on your plot, shape to the shape of the points, and size to the size of the points.

☐ Facet

☑ Color

> ✓ **Correct**
> In ggplot2, color, shape, and size are aesthetic attributes you can use to map variables to points. Color

refers to the color of the points on your plot, shape to the shape of the points, and size to the size of the points.

5. A data analyst creates a scatterplot with a lot of data points. The analyst wants to make some points on the plot more transparent than others. What aesthetic should the analyst use?

1 / 1 point

○ Color

◉ Alpha

○ Shape

○ Fill

⊘ **Correct**
The analyst should use the alpha aesthetic. The alpha aesthetic makes some points on a plot more transparent than others.

6. You are working with the penguins dataset. You create a scatterplot with the following code:

1 / 1 point

```
ggplot(data = penguins) +
```

```
geom_point(mapping = aes(x = flipper_length_mm, y = body_mass_g))
```

You want to highlight the different years of data collection on your plot. Add a code chunk to the second line of code to map the aesthetic *size* to the variable *year*.

NOTE: the three dots (…) indicate where to add the code chunk.

```
1   geom_point(mapping = aes(x = flipper_length_mm, y = body_mass_g, size = year))
```

Run

Reset
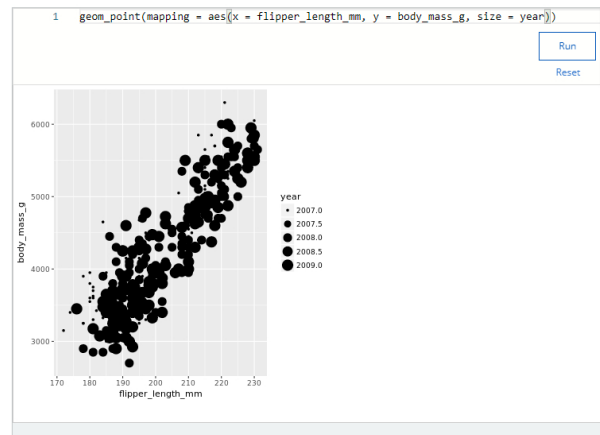
What years does your visualization display?

○ 2005-2009

○ 2006-2010

◉ 2007-2009

○ 2007-2011

⊘ **Correct**
You add the code chunk `size = year` to map the aesthetic size to the variable year. The correct code is `ggplot(data = penguins) + geom_point(mapping = aes(x = flipper_length_mm, y = body_mass_g, size = year))`. Inside the parentheses of the aes() function, after the comma that follows y = body_mass_g, write the aesthetic (size), then an equals sign, then the variable (year). The data points for the different years now appear in different sizes.

Your visualization displays the years 2007-2009.

7. A data analyst creates a plot with the following code chunk:

1 / 1 point

```
ggplot(data = penguins) +
```

```
geom_jitter(mapping = aes(x = flipper_length_mm, y = body_mass_g))
```

What does the geom_jitter() function do to the points in the plot?

◉ Adds a small amount of random noise to each point in the plot

○ Decrease the size of each point in the plot

○ Adds a small amount of random shapes at each point in the plot

○ Adds random colors to each point in the plot

⊘ **Correct**
The geom_jitter() function creates a scatterplot and then adds a small amount of random noise to each point in the plot to make the points easier to find.

8. You are working with the diamonds dataset. You create a bar chart with the following code:

1 / 1 point

```
ggplot(data = diamonds) +
```

```
geom_bar(mapping = aes(x = color, fill = cut)) +
```

You want to use the facet_wrap() function to display subsets of your data. Add the code chunk that lets you facet your plot based on the variable *color*.

```
1   ggplot(data = diamonds) +
2       geom_bar(mapping = aes(x = color, fill = cut)) +
3       facet_wrap(~color)
```

Run

Reset

Error: Don't know how to add o to a plot

How many subplots does your visualization show?

○ 6

○ 9

○ 8

◉ 7

✓ **Correct**

You add the code chunk `facet_wrap(~color)` to facet your plot based on the variable color. The correct code is `ggplot(data = diamonds) + geom_bar(mapping = aes(x = color, fill = cut)) + facet_wrap(~color)`. Inside the parentheses of the facet_wrap() function, write a tilde symbol (~) followed by the name of the variable you want to facet. The facet_wrap() function lets you display subsets of your data.

Your visualization shows 7 subplots.

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9. A data analyst creates a scatterplot. The analyst wants to put a text label on the plot to call out specific data points. What function does the analyst use?

1 / 1 point

○ The ggplot() function

◉ The annotate() function

○ The geom_smooth() function

○ The facet_grid() function

✓ **Correct**

The analyst uses the annotate() function. The annotate() function can put a text label on a plot to call out specific data points.

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10. You are working with the penguins dataset. You create a scatterplot with the following lines of code:

`ggplot(data = penguins) +`

`geom_point(mapping = aes(x = flipper_length_mm, y = body_mass_g)) +`

What code chunk do you add to the third line to save your plot as a png file with "penguins" as the file name?

1 / 1 point

◉ `ggsave("penguins.png")`

○ `ggsave("penguins")`

○ `ggsave(penguins.png)`

○ `ggsave("png.penguins")`

✓ **Correct**

You add the code chunk `ggsave("penguins.png")` to save your plot as a png file with "penguins" as the file name. Inside the parentheses of the ggsave() function, type a quotation mark followed by the file name (penguins), then a period, then the type of file (png), then a closing quotation mark.