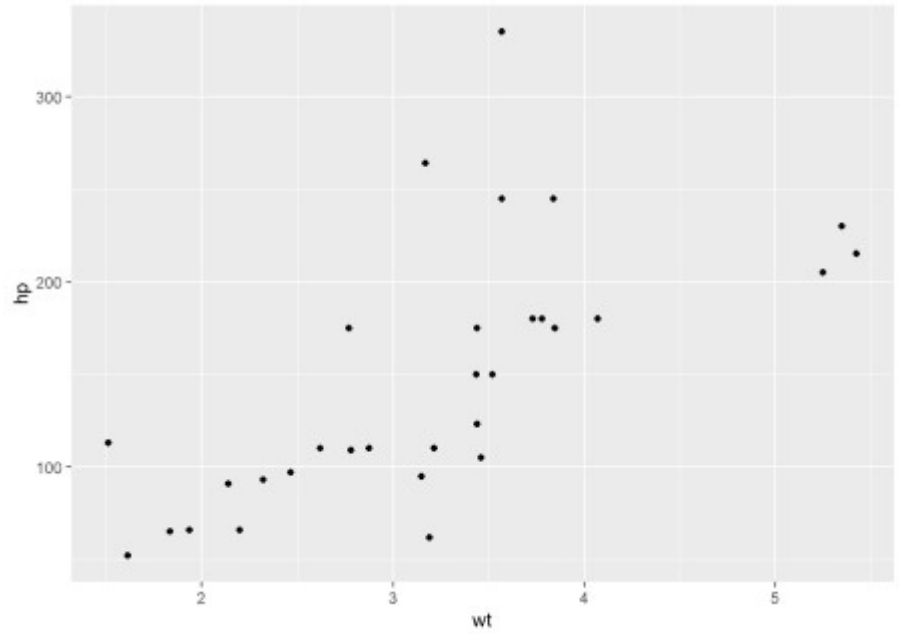
Let's start off by creating a scatter plot of weight (`wt`) vs. horse power (`hp`) of cars in the infamous `mtcars` dataset.

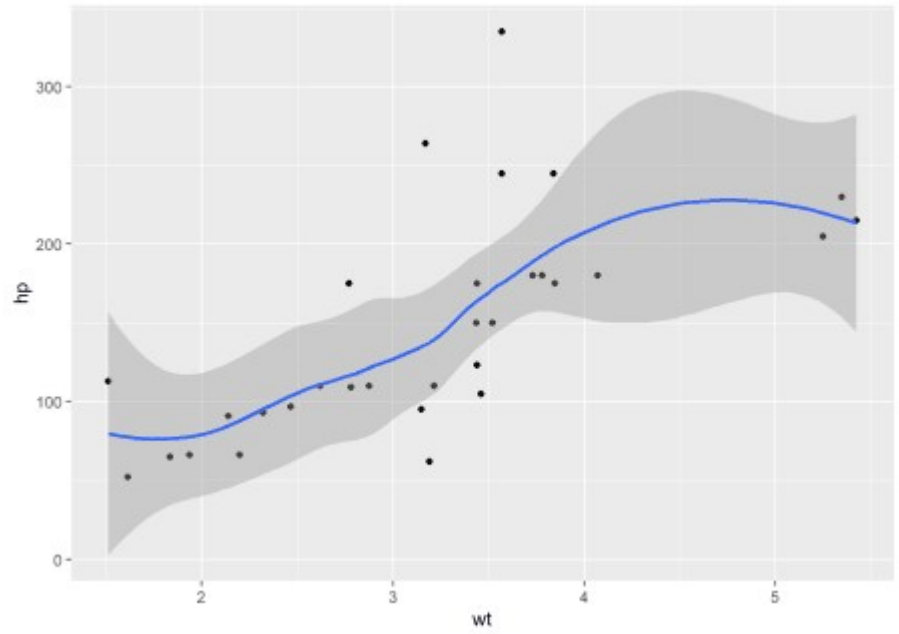
```
library(ggplot2)
data(mtcars)
p <- ggplot(mtcars, aes(wt, hp)) +
  geom_point()
p
```



There's an obvious positive trend visible: the heavier a car is the higher its horse power tend to be.

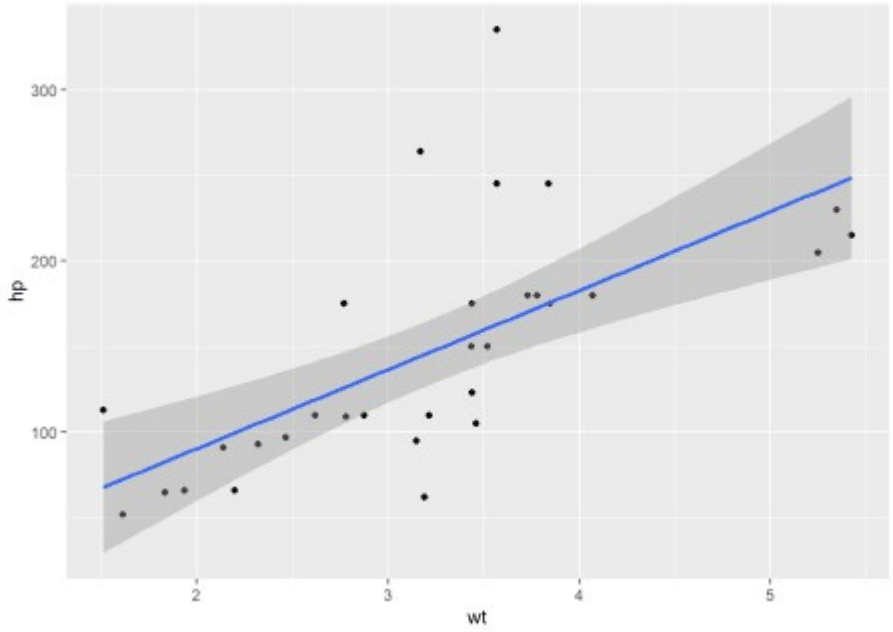
Next, let's add a smoother to make this trend even more apparent.

```
p + geom_smooth()
```



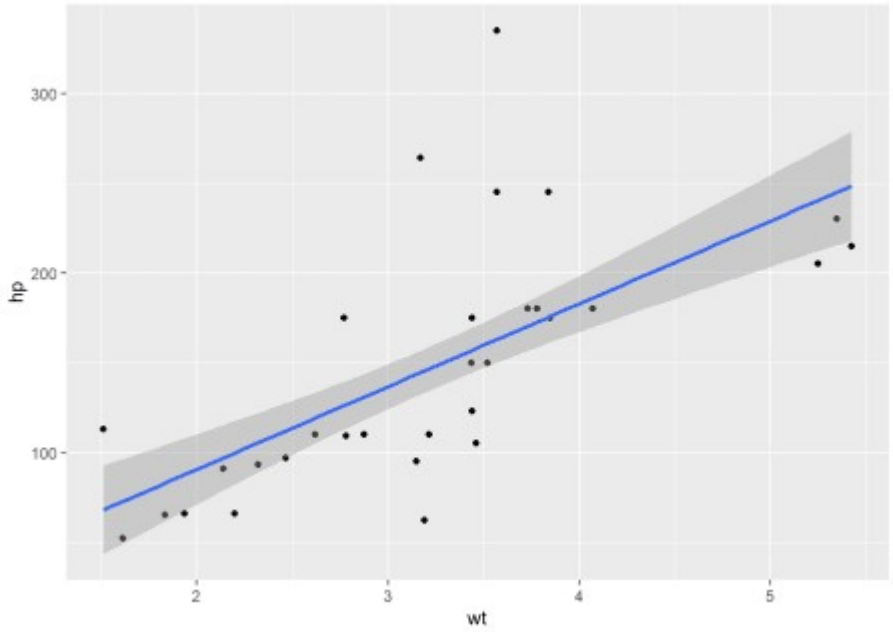
By default, `geom_smooth()` adds a LOESS smoother to the data. That's not what we're after, though. To make `geom_smooth()` draw a linear regression line we have to set the `method` parameter to `"lm"` which is short for "linear model".

```
p + geom_smooth(method = "lm")
```



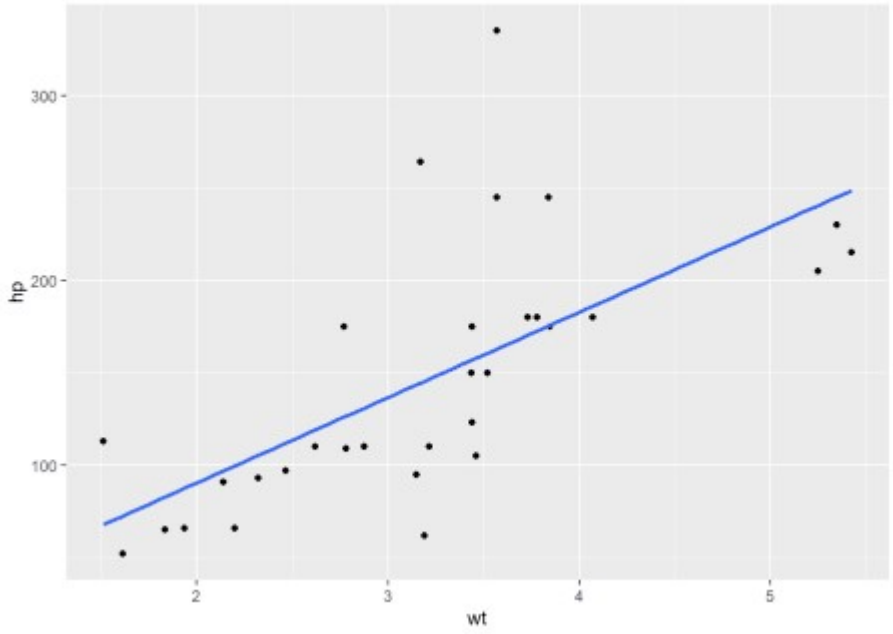
The gray shading around the line represents the 95% confidence interval. You can change the confidence interval level by changing the `level` parameter. A value of `0.8` represents a 80% confidence interval.

```
p + geom_smooth(method = "lm", level = 0.8)
```



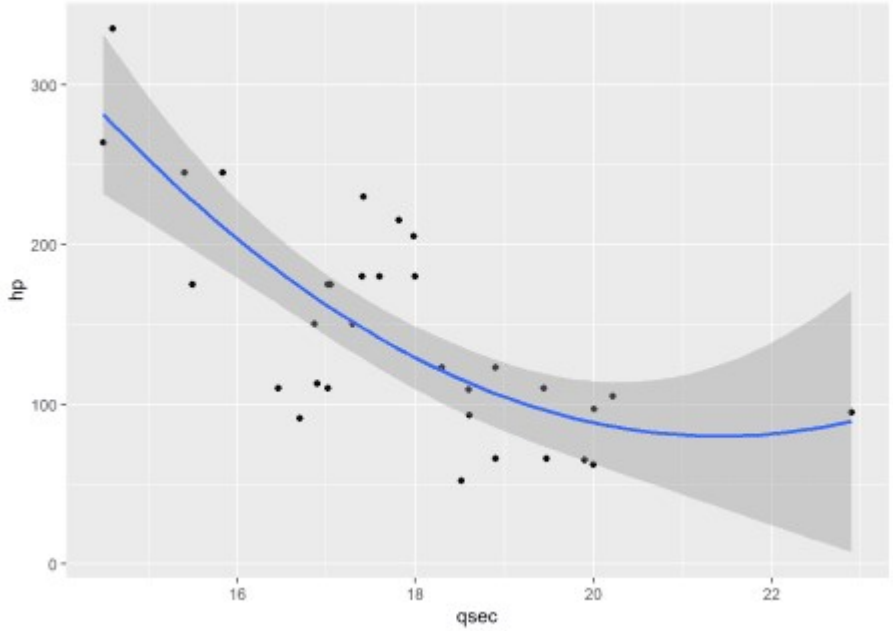
If you don't want to show the confidence interval band at all, set the `se` parameter to `FALSE`.

```
p + geom_smooth(method = "lm", se = FALSE)
```



Sometimes a line is not a good fit to the data but a polynomial would be. So, how to add a polynomial regression line to a plot? To do so, we will still have to use `geom_smooth()` with `method = "lm"` but in addition specify the `formula` parameter. By default, `formula` is set to `y ~ x` (read: `y` as a function of `x`). To draw a polynomial of degree `n` you have to change the formula to `y ~ poly(x, n)`. Here's an example fitting a 2nd degree (quadratic) polynomial regression line.

```
ggplot(mtcars, aes(qsec, hp)) +
  geom_point() +
  geom_smooth(method = "lm", formula = y ~ poly(x, 2))
```



Now it's your turn! Start a new R session, load some data, and create a ggplot with a linear regression line. Happy programming!