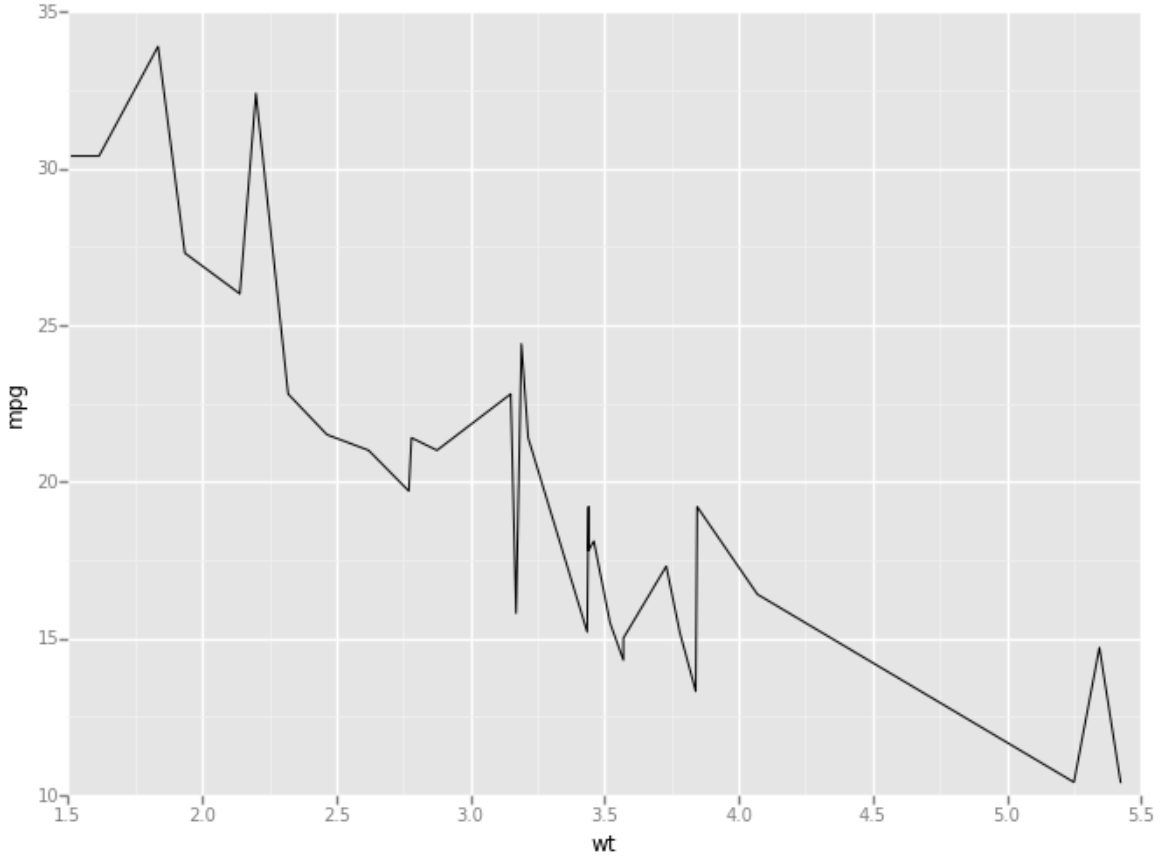
In [62]:

```
from ggplot import *

%matplotlib inline
```

In [63]:

```
ggplot(mtcars, aes('wt', 'mpg')) + \
    geom_line()
```

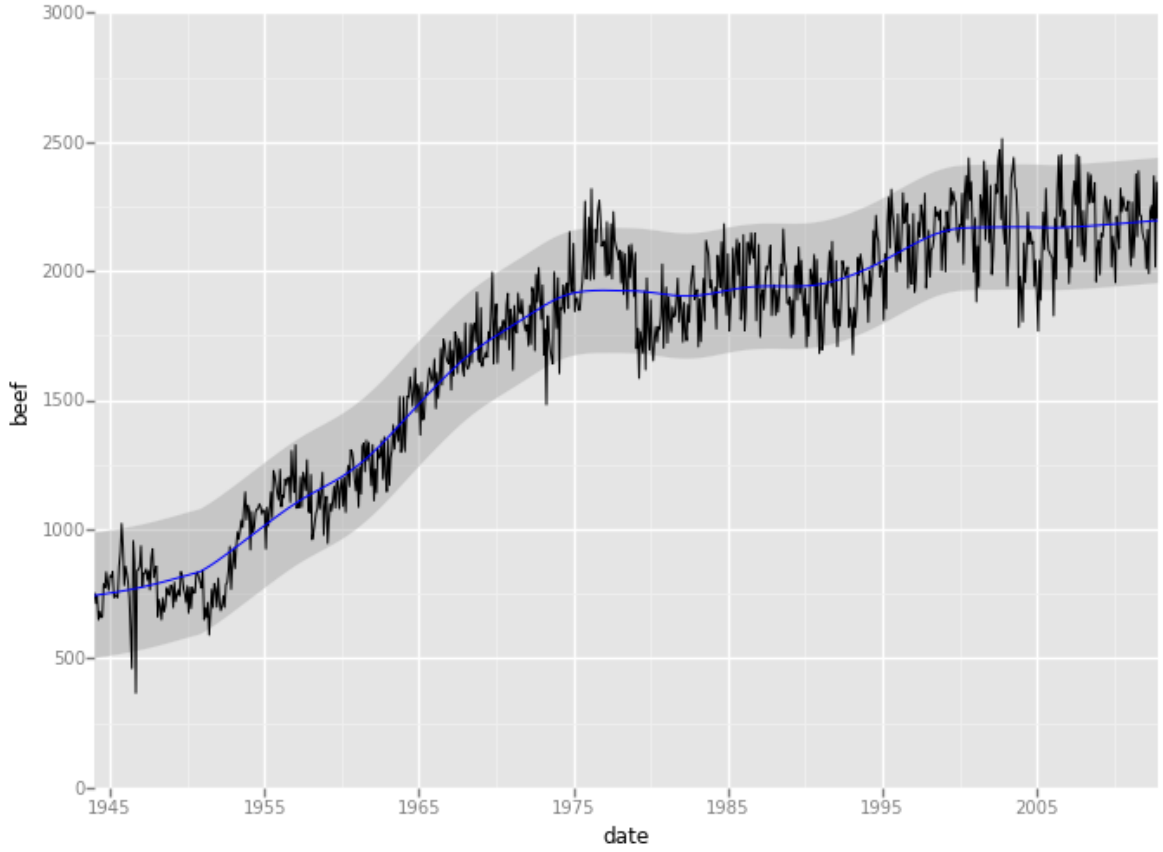


Out[63]:

<ggplot: (34483211)>

In [64]:

```
ggplot(meat, aes(x='date', y='beef') ) +\
    geom_line() +\
    stat_smooth(colour='blue', span=0.2)
```



Out[64]:

<ggplot: (33458650)>

Some Inbuilt data sets

- diamonds
- mtcars
- meat
- videos

In [65]:

```
### show info about the data

mtcars.head(3)
```

Out[65]:

	name	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
0	Mazda RX4	21.0	6	160	110	3.90	2.620	16.46	0	1	4	4
1	Mazda RX4 Wag	21.0	6	160	110	3.90	2.875	17.02	0	1	4	4
2	Datsun 710	22.8	4	108	93	3.85	2.320	18.61	1	1	4	1

In [66]:

```
### show info about the data
diamonds.head(3)
```

Out[66]:

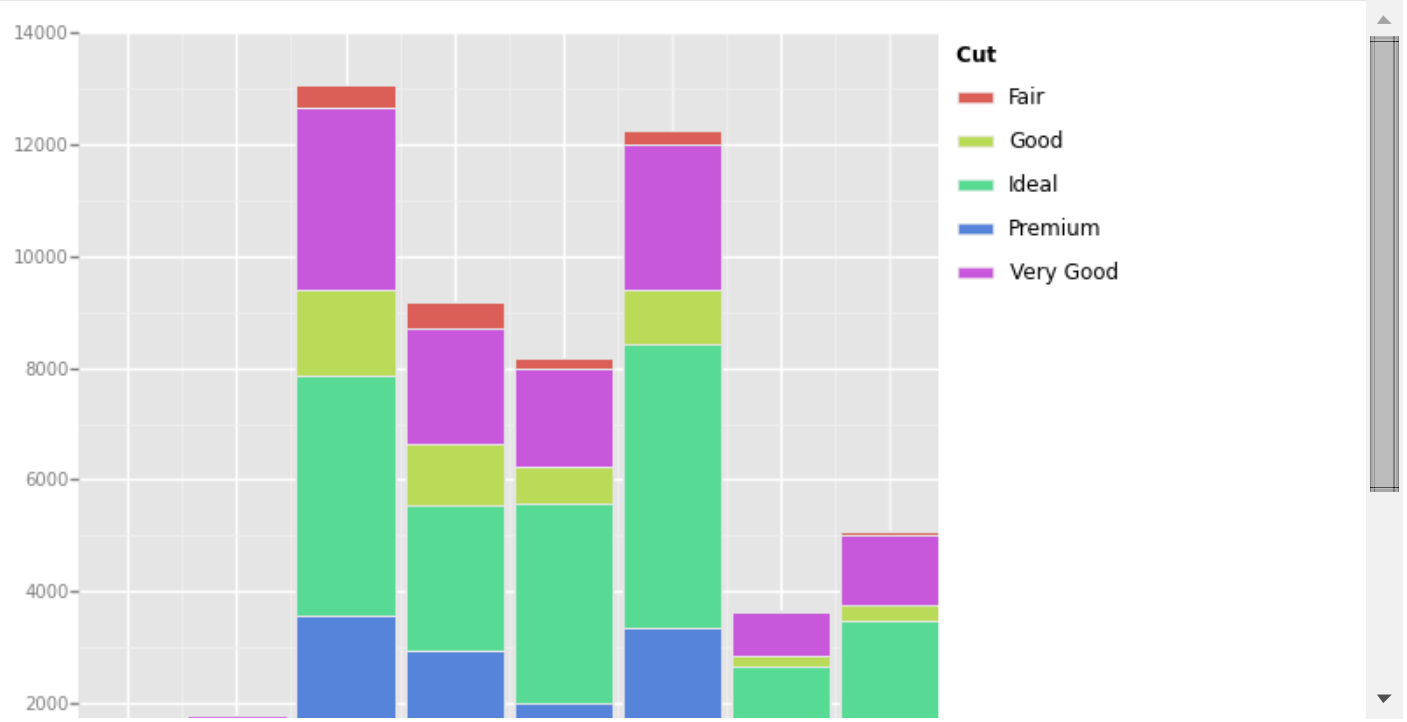
	carat	cut	color	clarity	depth	table	price	x	y	z
0	0.23	Ideal	E	SI2	61.5	55	326	3.95	3.98	2.43
1	0.21	Premium	E	SI1	59.8	61	326	3.89	3.84	2.31
2	0.23	Good	E	VS1	56.9	65	327	4.05	4.07	2.31

Translating From R to Python

- R Command is **`ggplot(diamonds, aes(clarity)) + geom_bar()`**
- Equivalent Python Command is **`ggplot(diamonds, aes("clarity")) + geom_bar()`**
- Key Difference is ***Quotation Marks*** around column names
- Slightly more advanced example is below, fill by "cut" variable

In [67]:

```
ggplot(diamonds, aes("clarity", fill="cut")) + geom_bar()
```

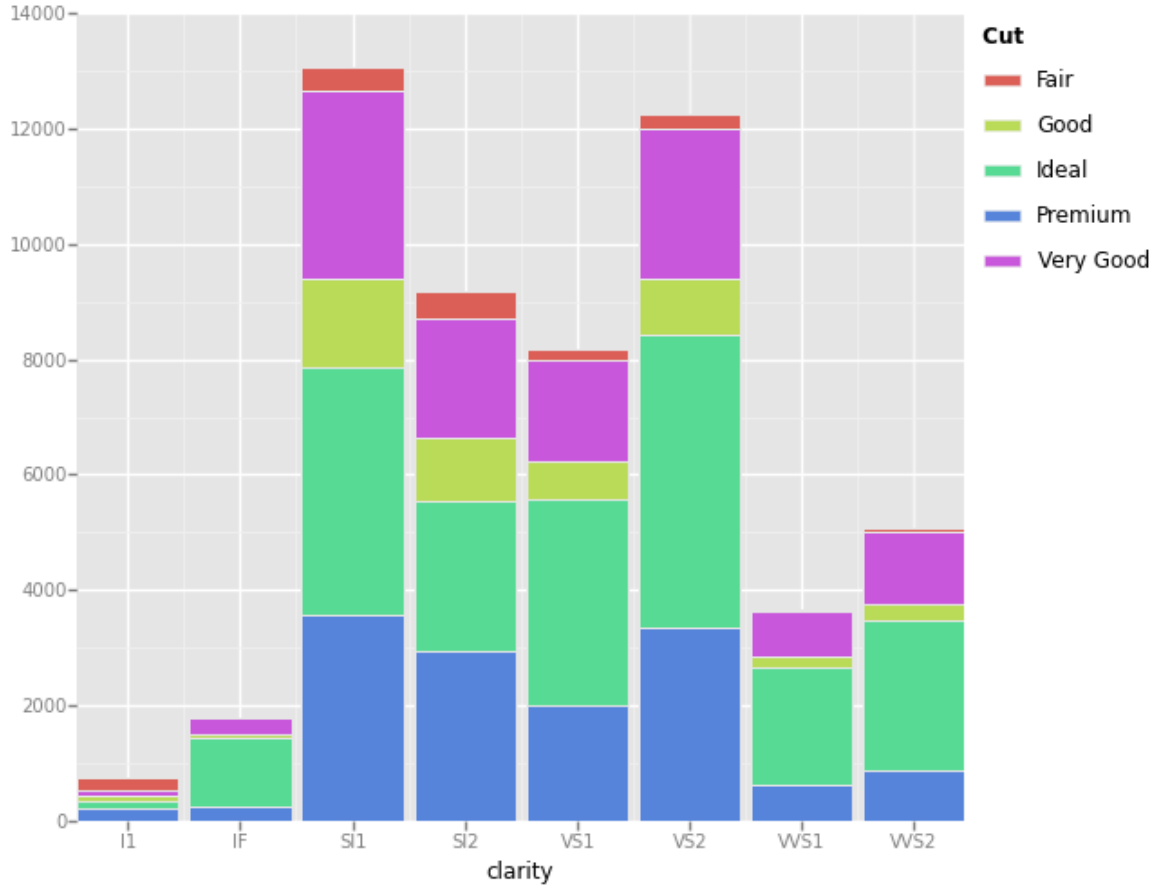


Quick Plots

- Command is `qplot`
- Usually same output as `ggplot`.
- Quickplots are actually easier to get the hang off, so we will start there
- Limited in functionality, so in long term, best go for `ggplot`

In [69]:

```
qplot("clarity", data=diamonds, fill="cut", geom="bar")
```



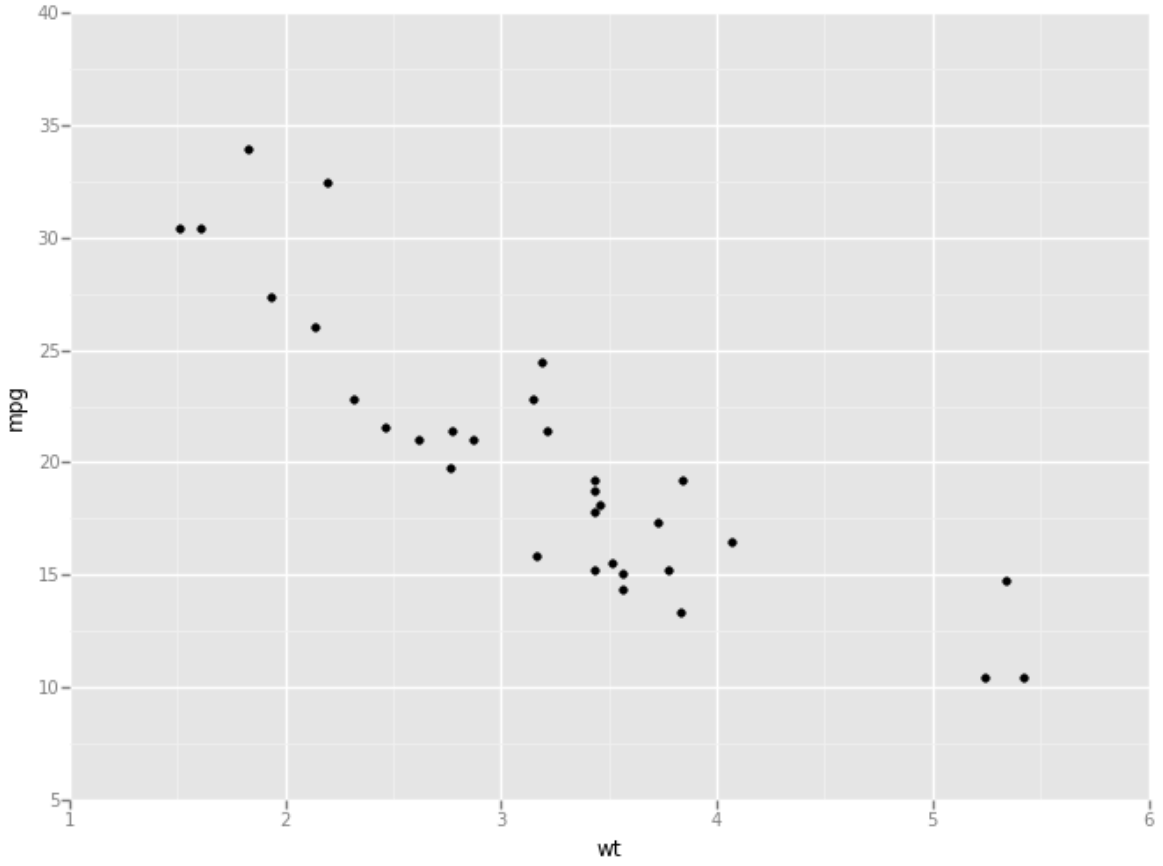
Out[69]:

<ggplot: (36874686)>

Create a Basic Scatterplot

In [70]:

```
# scatterplot
qplot("wt", "mpg", data=mtcars)
```

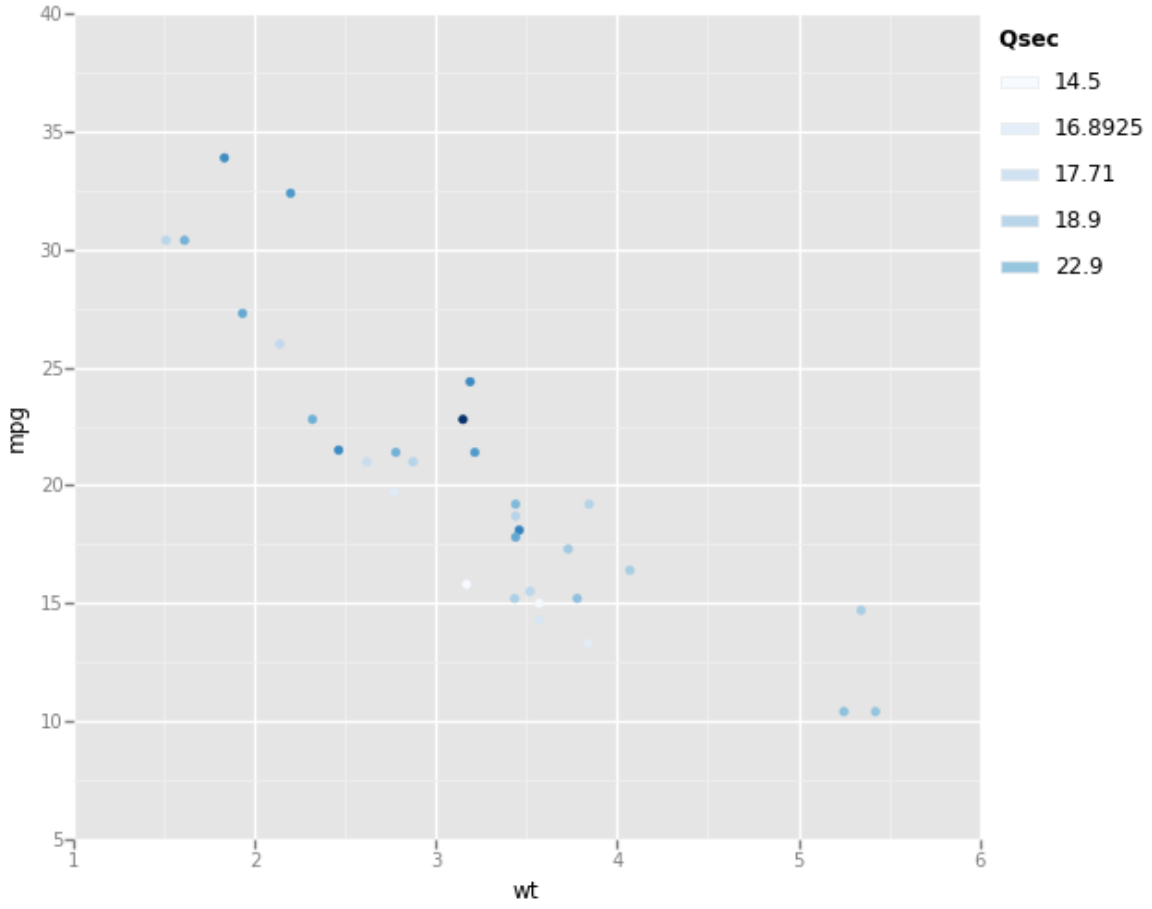


Out[70]:

<ggplot: (34641822)>

In [75]:

```
# add aesthetic mapping (hint: how does mapping work)
qplot("wt", "mpg", data=mtcars, color="qsec")
```

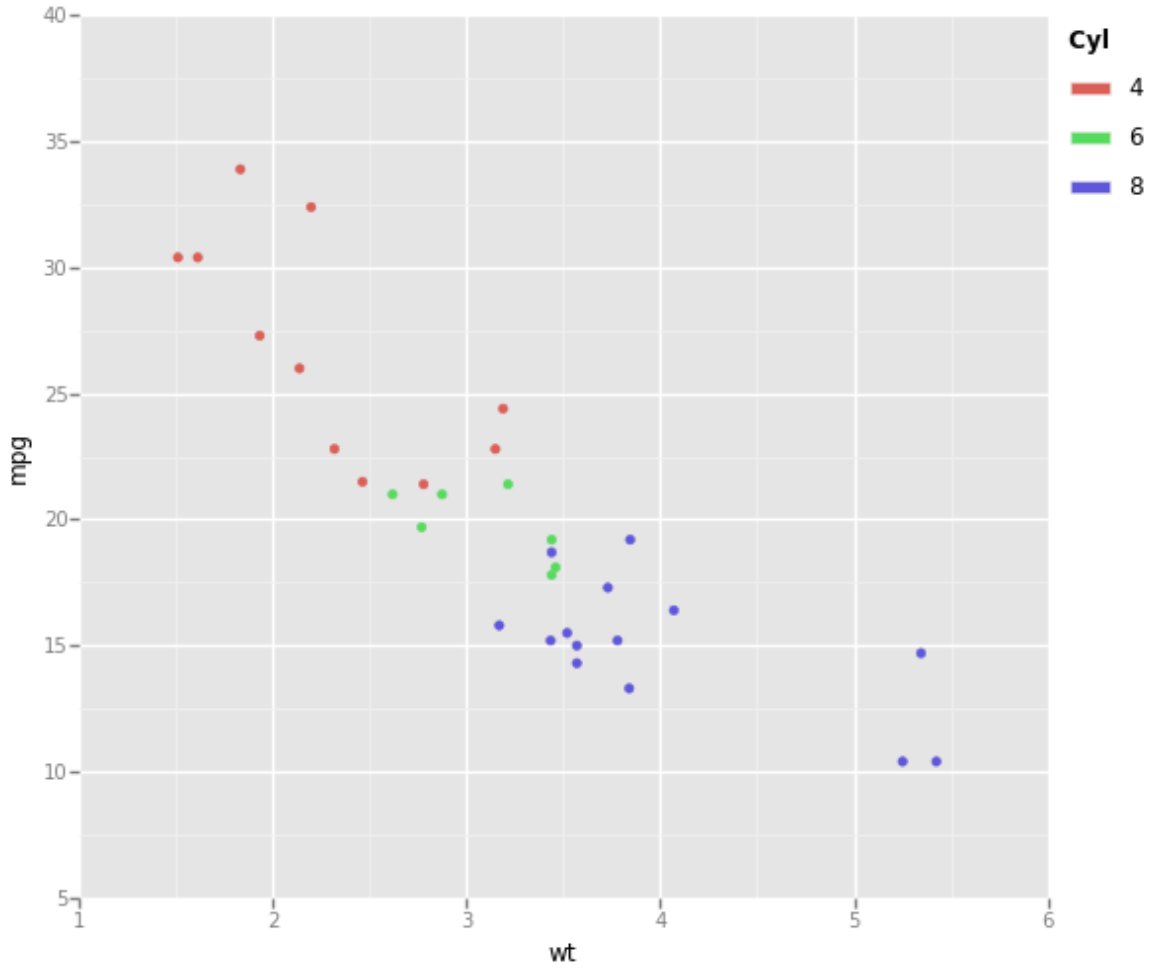


Out[75]:

<ggplot: (32321954)>

In [81]:

```
# change size of points (hint: color/colour, hint: set aesthetic/mapping)
qplot("wt", "mpg", data=mtcars, color="cyl" )
```



Out[81]:

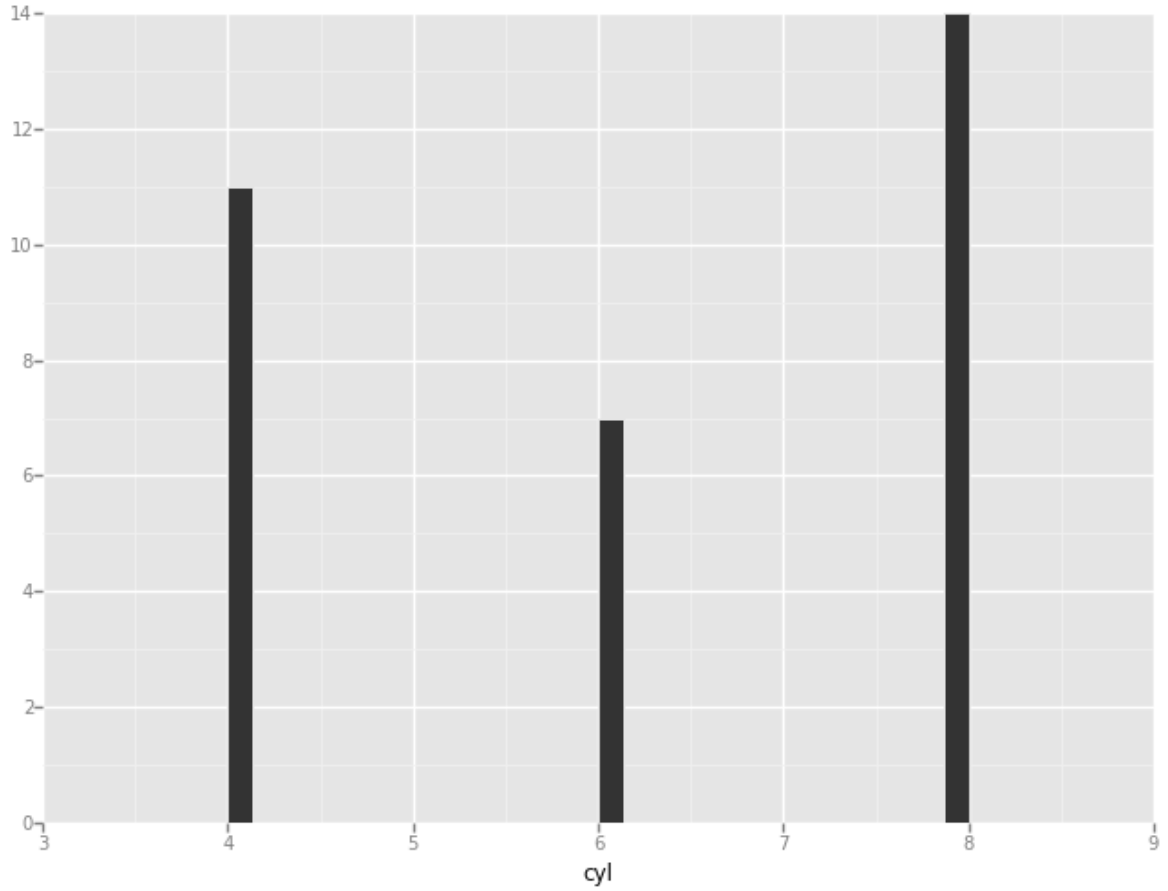
<ggplot: (36687459)>

Create a Simple Bar plot

- `cyl` is a categorical variable
- 11 Four cylinder cars, 7 Six cylinder cars, 14 eight cylinder cars.

In [85]:

```
qplot("cyl", data=mtcars, geom="bar")
# The Error Message is Expected.
```

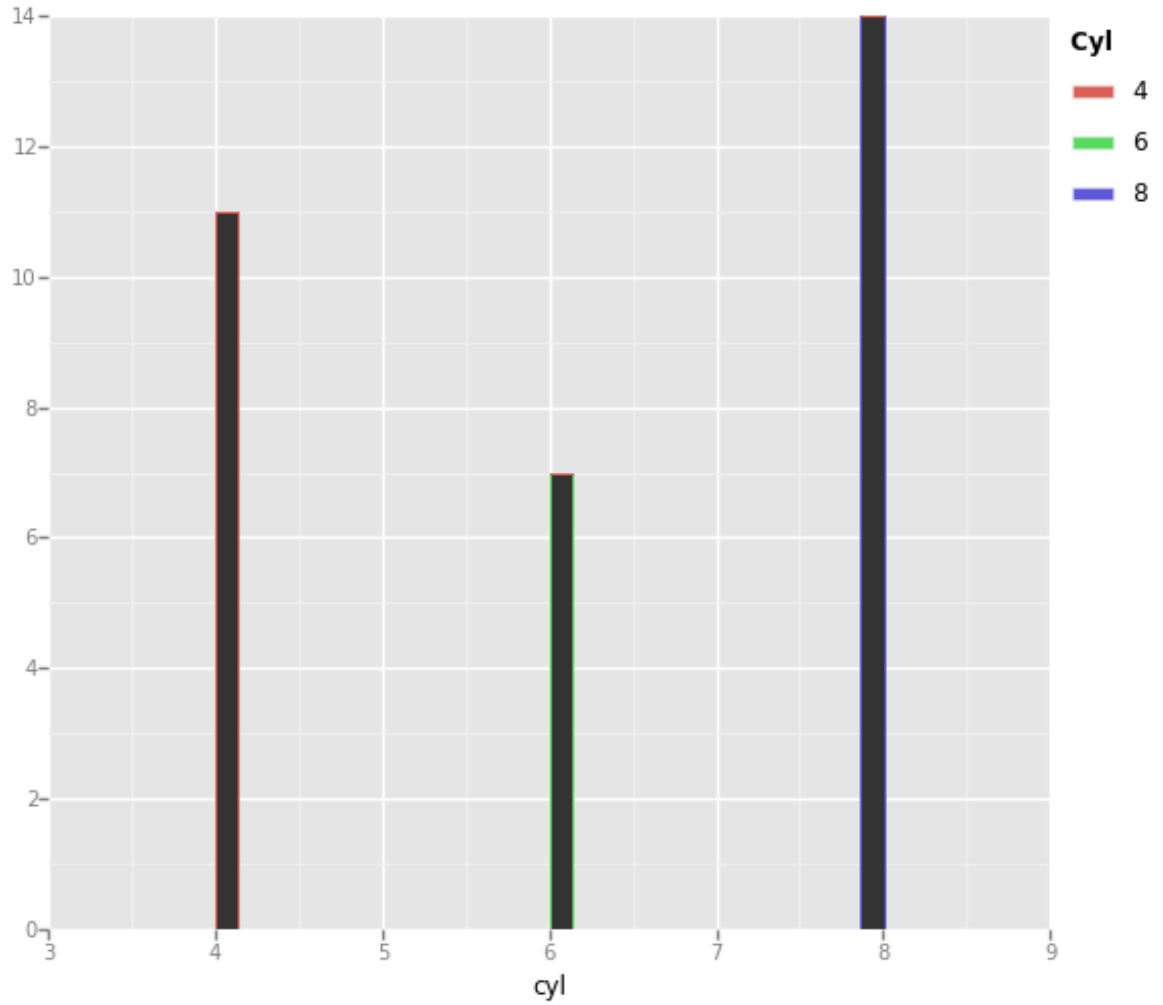


Out[85]:

<ggplot: (33592068)>

In [87]:

```
# Border Colour
qplot("cyl", data=mtcars, color="cyl",geom="bar")
```

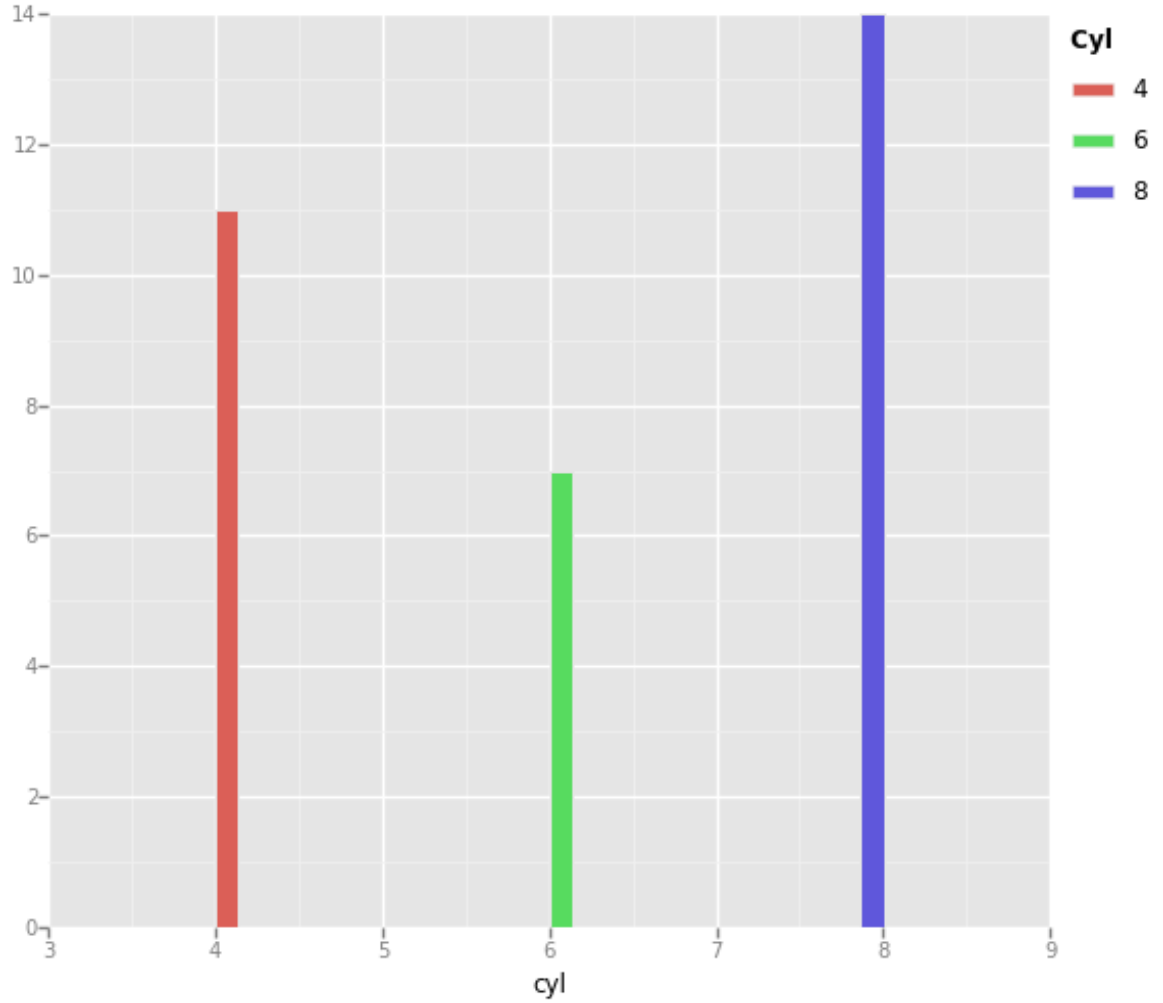


Out[87]:

<ggplot: (34920073)>

In [88]:

```
# Border Colour
qplot("cyl", data=mtcars, fill="cyl",geom="bar")
```

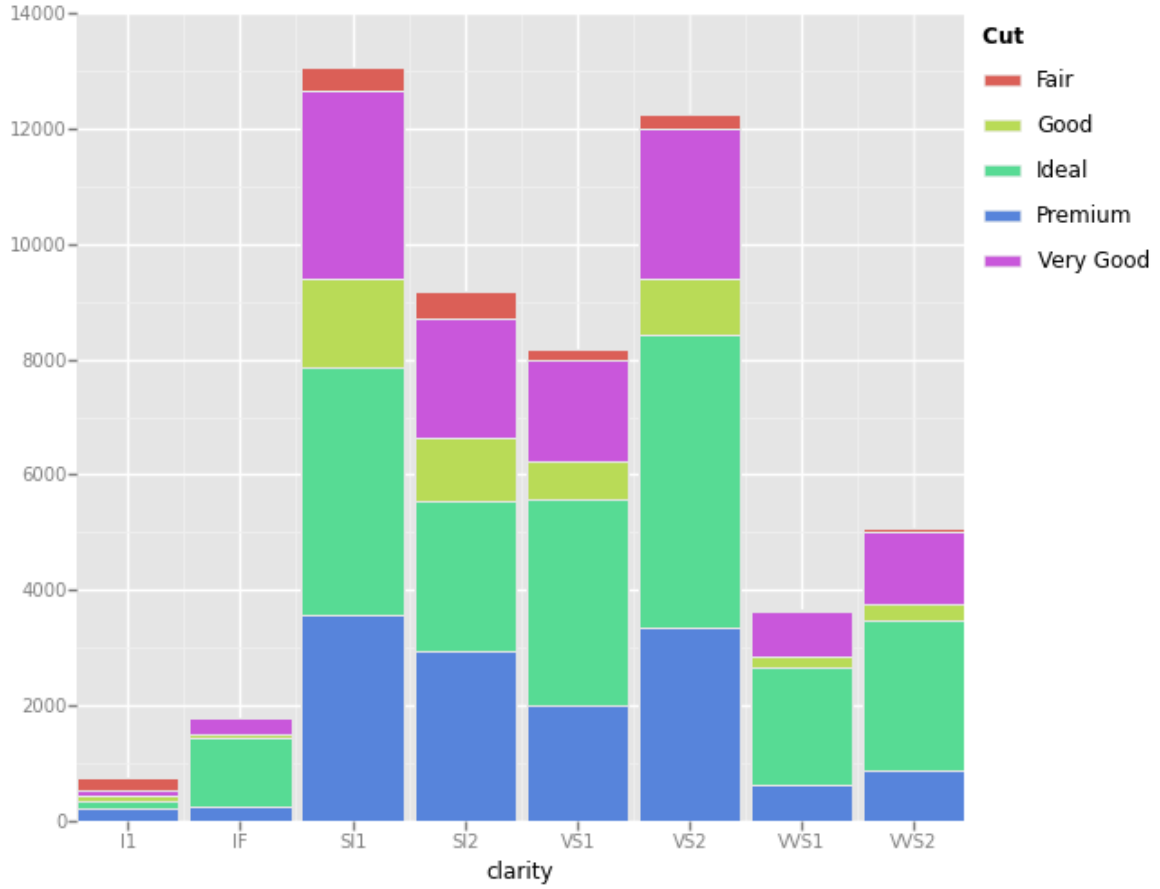


Out[88]:

<ggplot: (36403260)>

In [91]:

```
qplot("clarity", data=diamonds, geom="bar", fill="cut", position="stack")
```

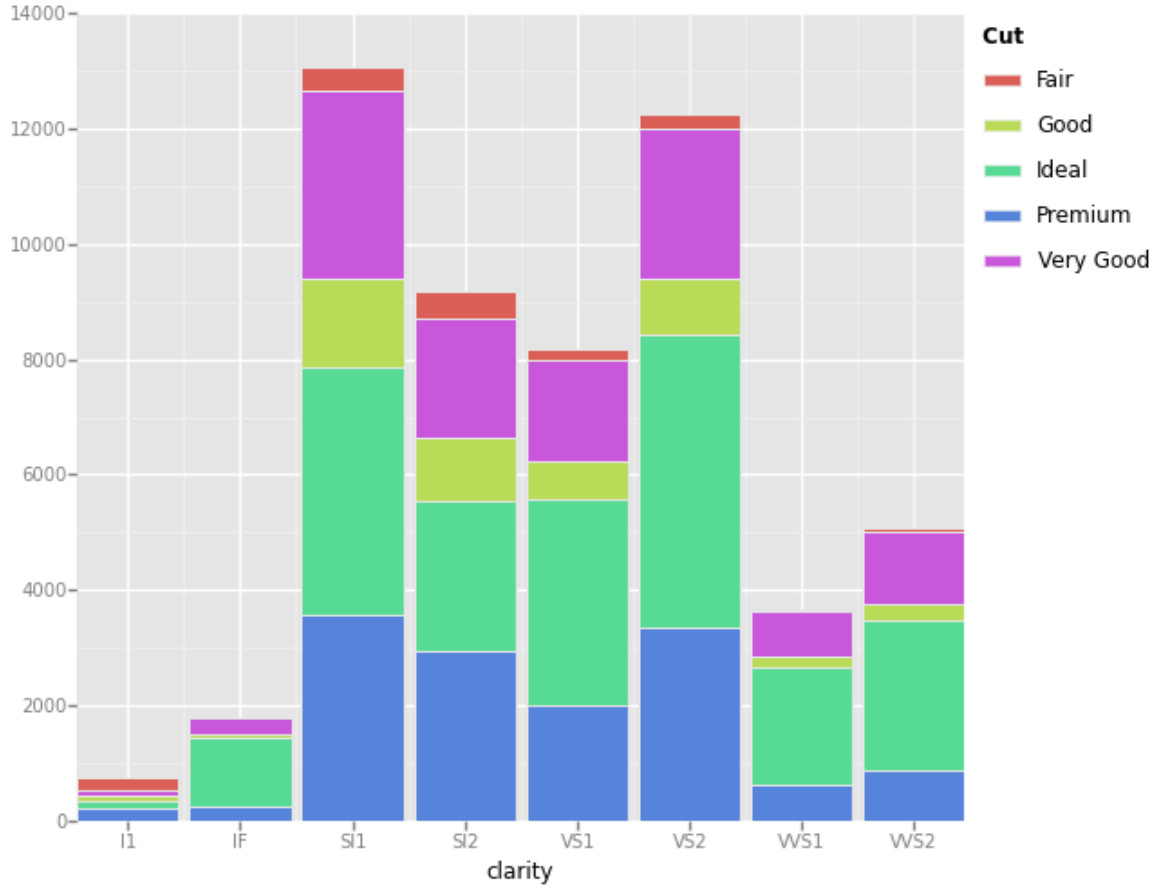


Out[91]:

<ggplot: (34920028)>

In [92]:

```
qplot("clarity", data=diamonds, geom="bar", fill="cut", position="dodge")
```

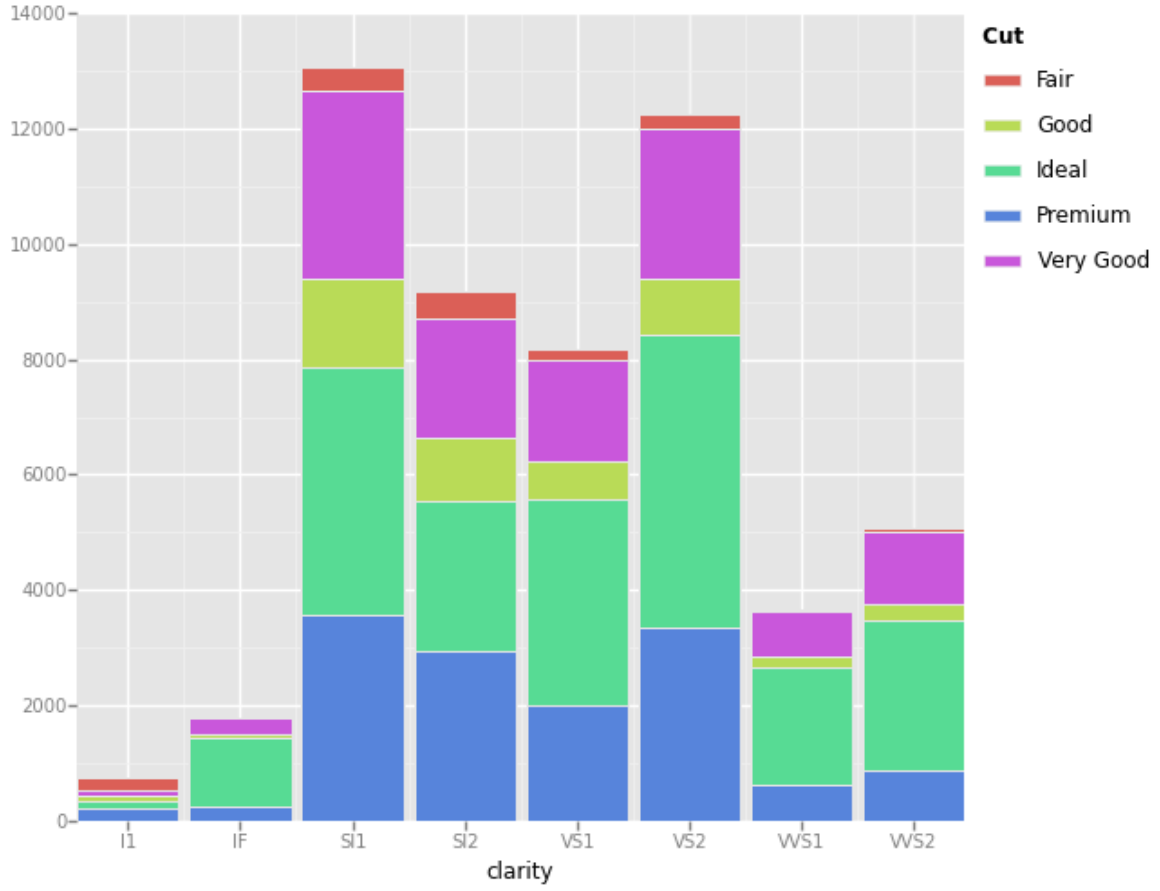


Out[92]:

<ggplot: (38917068)>

In [93]:

```
qplot("clarity", data=diamonds, geom="bar", fill="cut", position="fill")
```

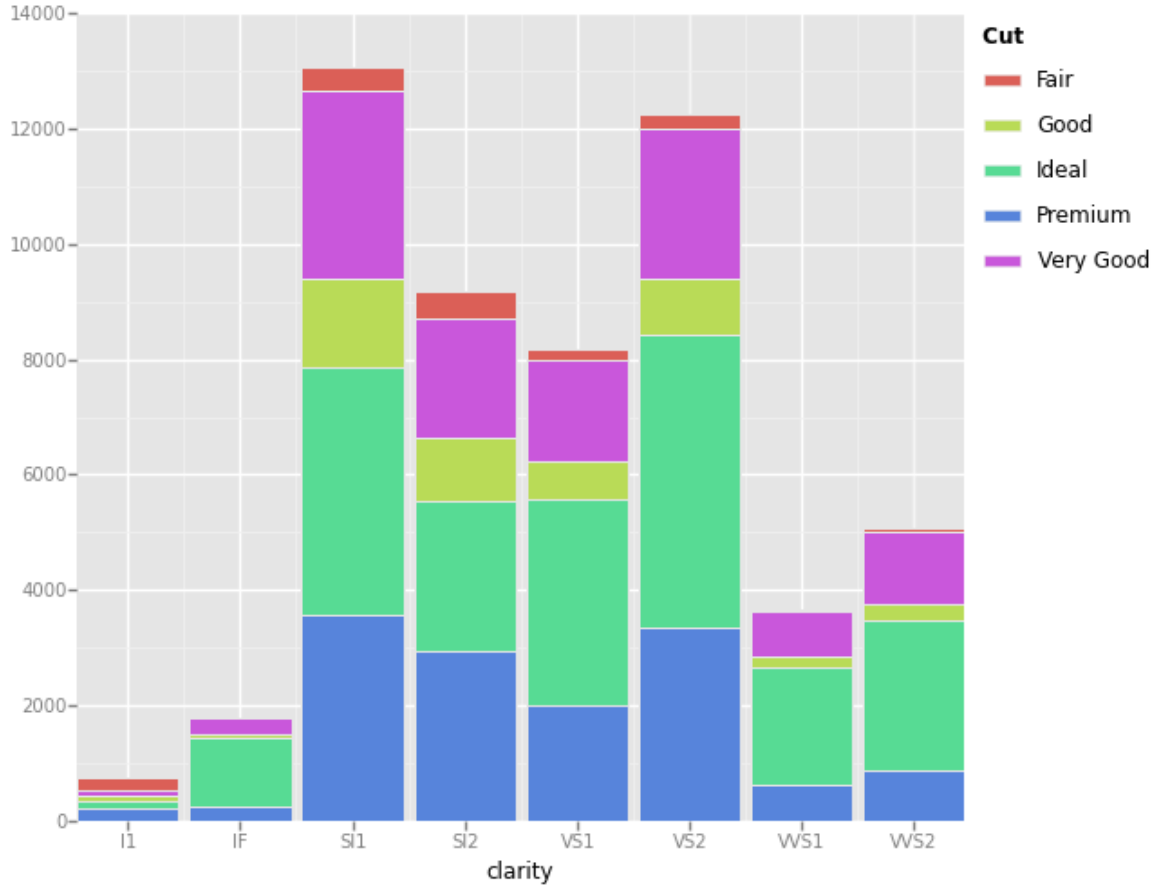


Out[93]:

<ggplot: (33098342)>

In [94]:

```
qplot("clarity", data=diamonds, geom="bar", fill="cut", position="identity")
```

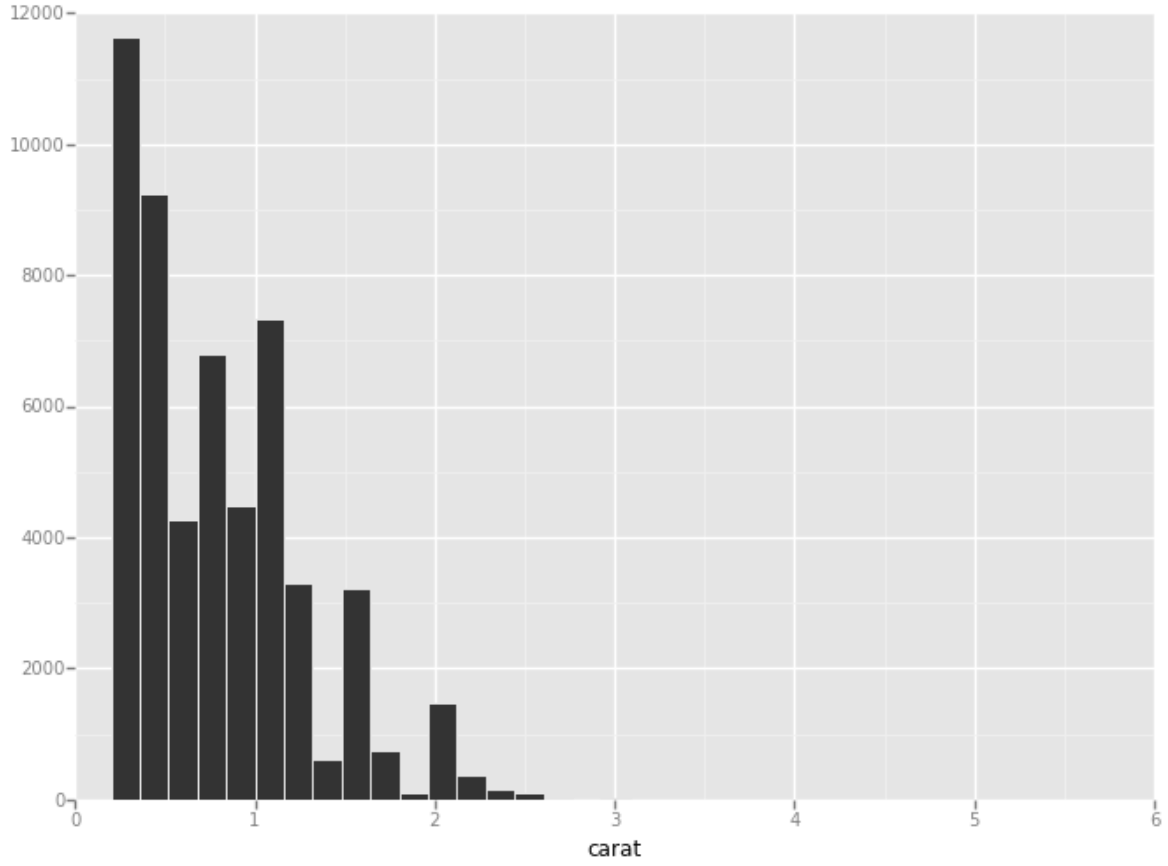


Out[94]:

<ggplot: (40880598)>

In [103]:

```
# histogram
qplot("carat", data=diamonds, geom="histogram")
```

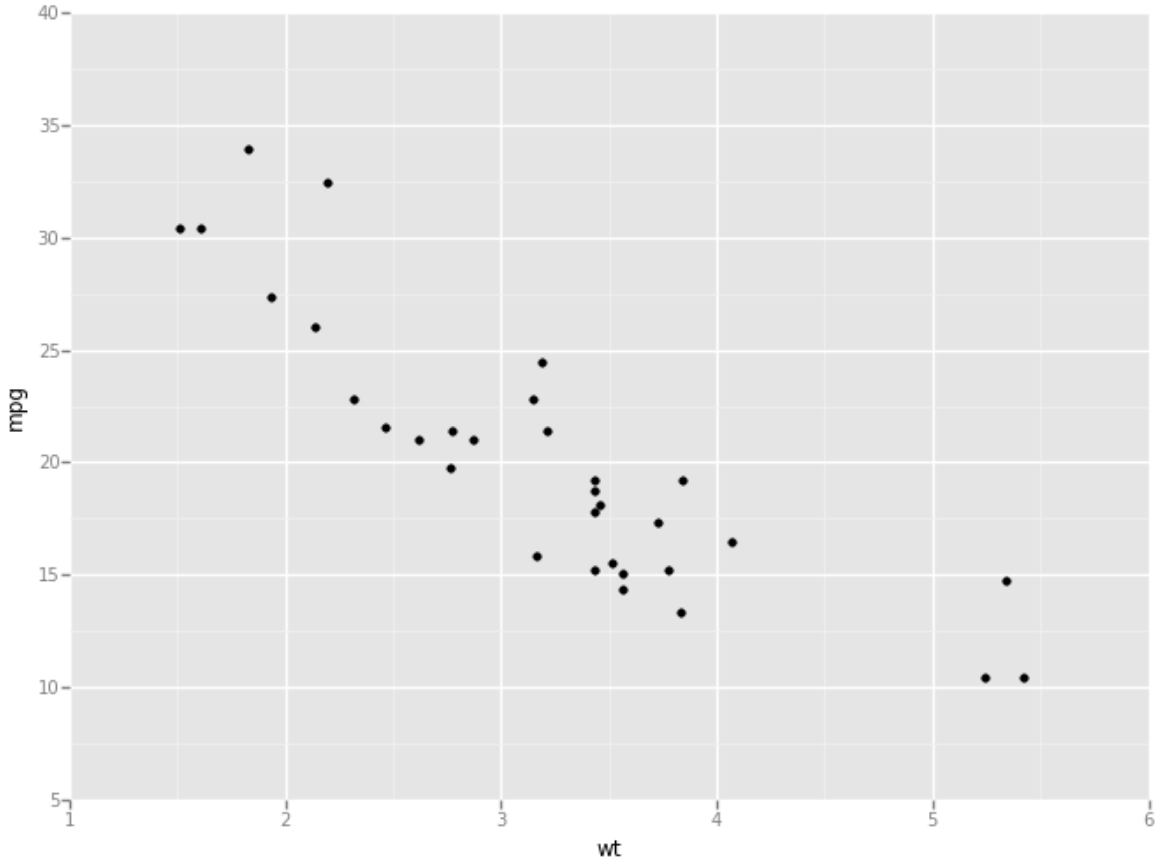


Out[103]:

<ggplot: (43000633)>

In [107]:

```
qplot("wt", "mpg", data=mtcars, geom=("point", "smooth"))
```



Out[107]:

<ggplot: (44428958)>

In [ ]:

```

```

In [ ]:

```

```