## Barplots and Histograms

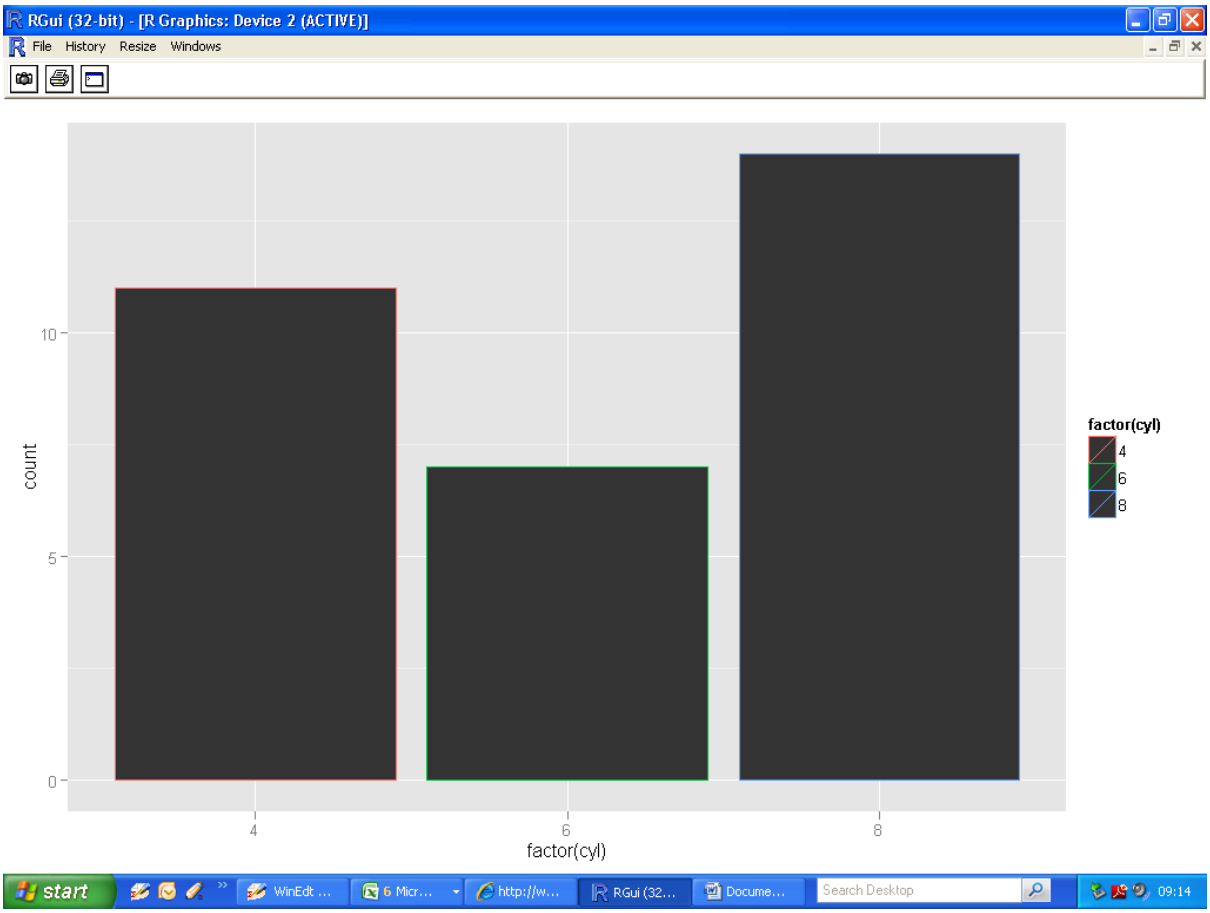
```
>qplot(factor(cyl), data=mtcars, geom="bar")
```

## Barplots: Fill argument

```
>qplot(factor(cyl), data=mtcars, geom="bar", fill=factor(cyl))
>
```

## Barplots: Colour argument (border colouring)

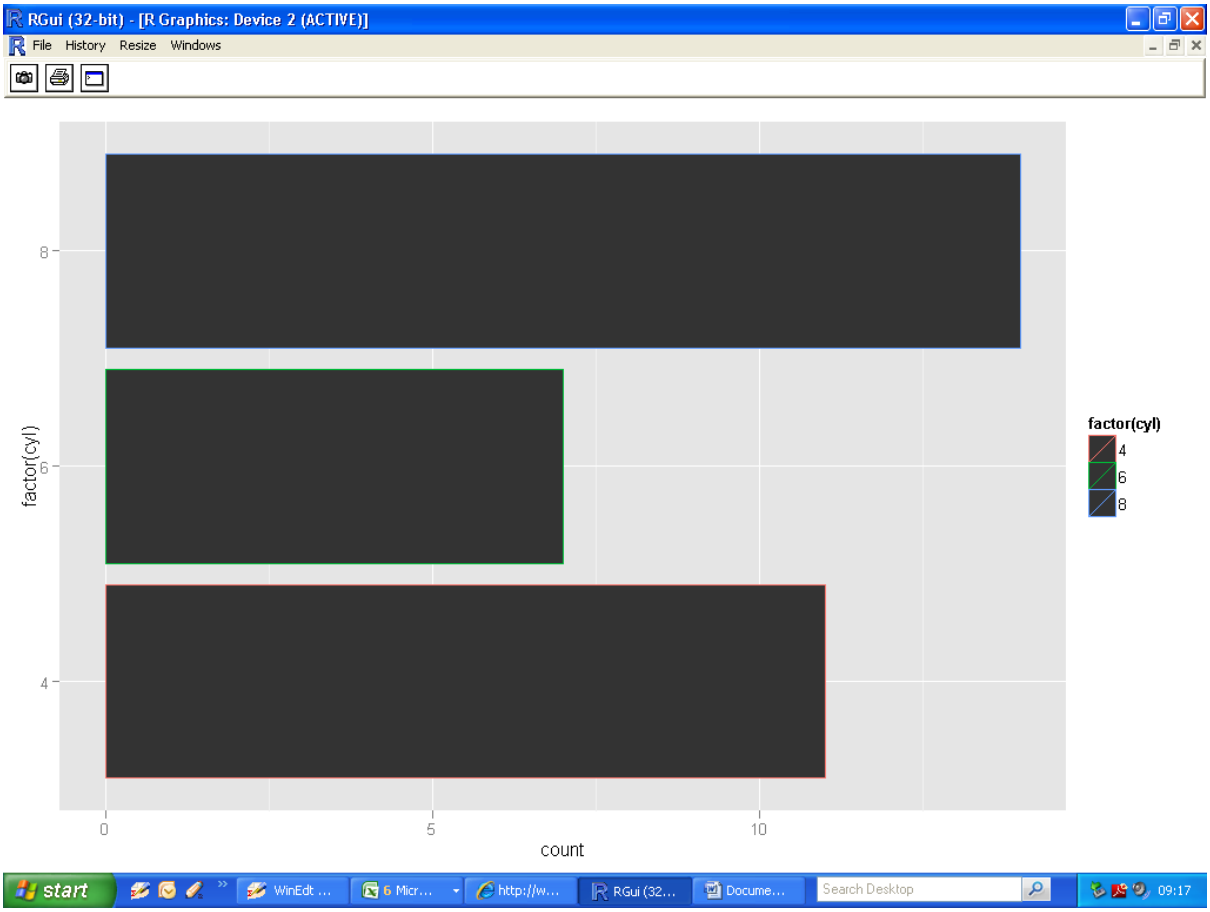
```
> qplot(factor(cyl), data=mtcars, geom="bar", colour=factor(cyl))
>
```



## Flipping a plot onto its side

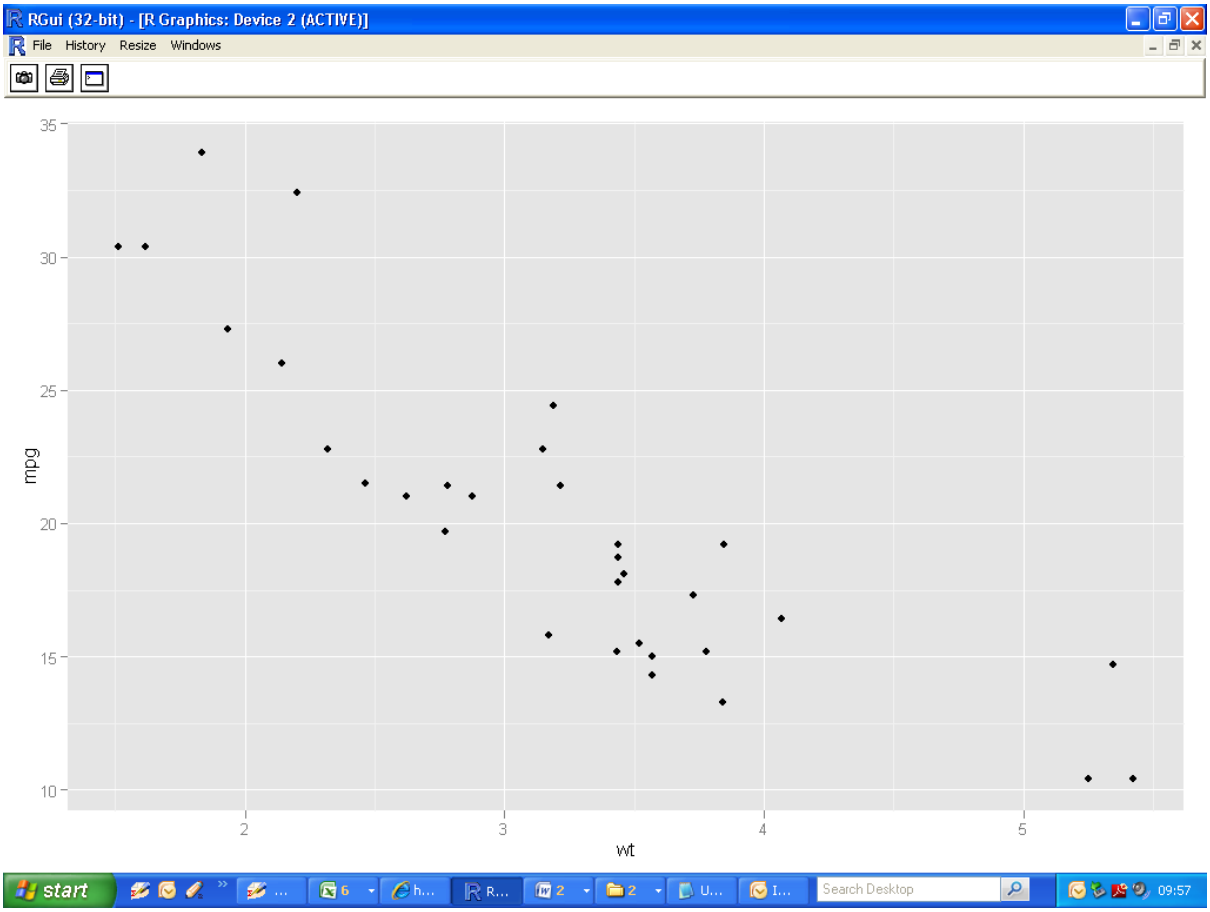
(Bringing in the notion of additive layering)

```
> qplot(factor(cyl), data=mtcars, geom="bar" ,colour=factor(cyl))
+ coord_flip()
>
```



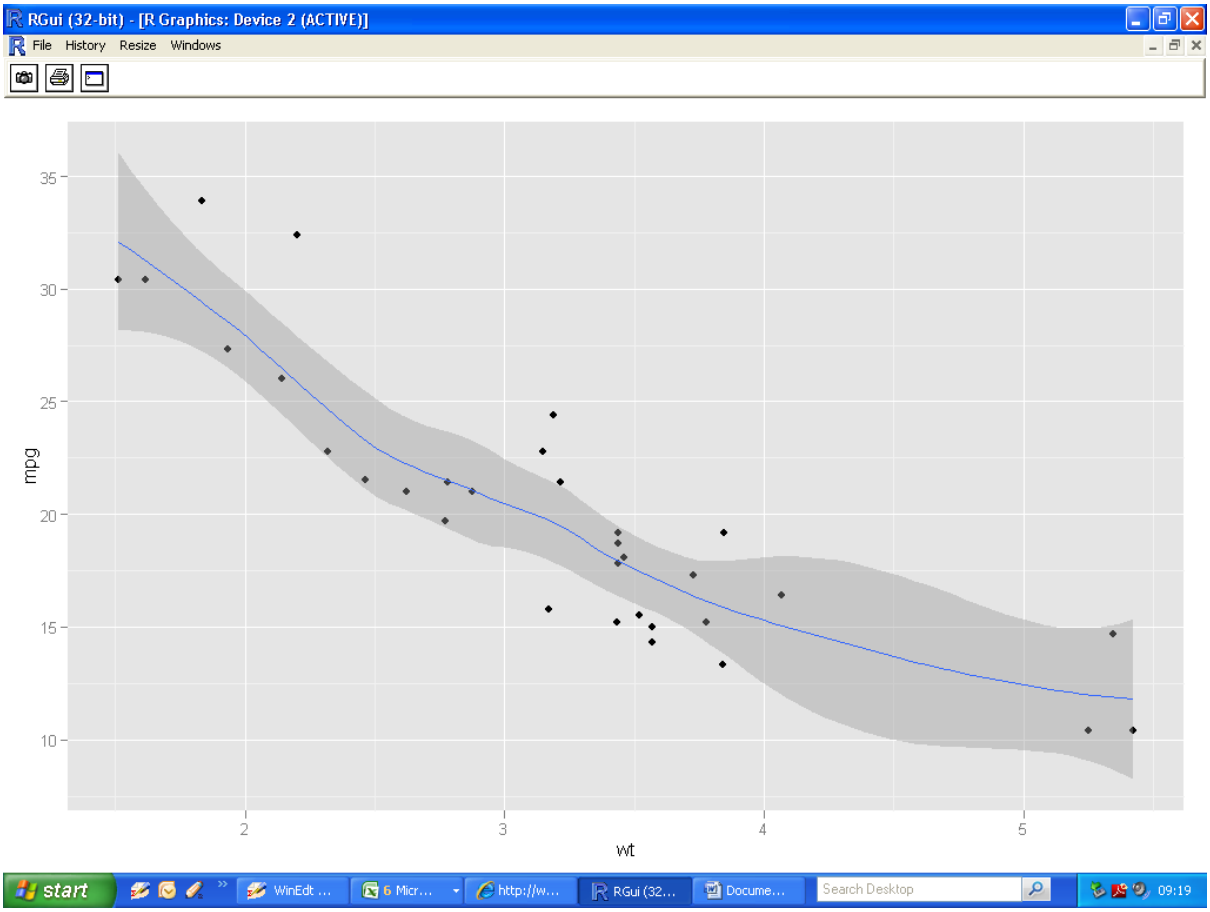
## Scatterplots (using Geoms)

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



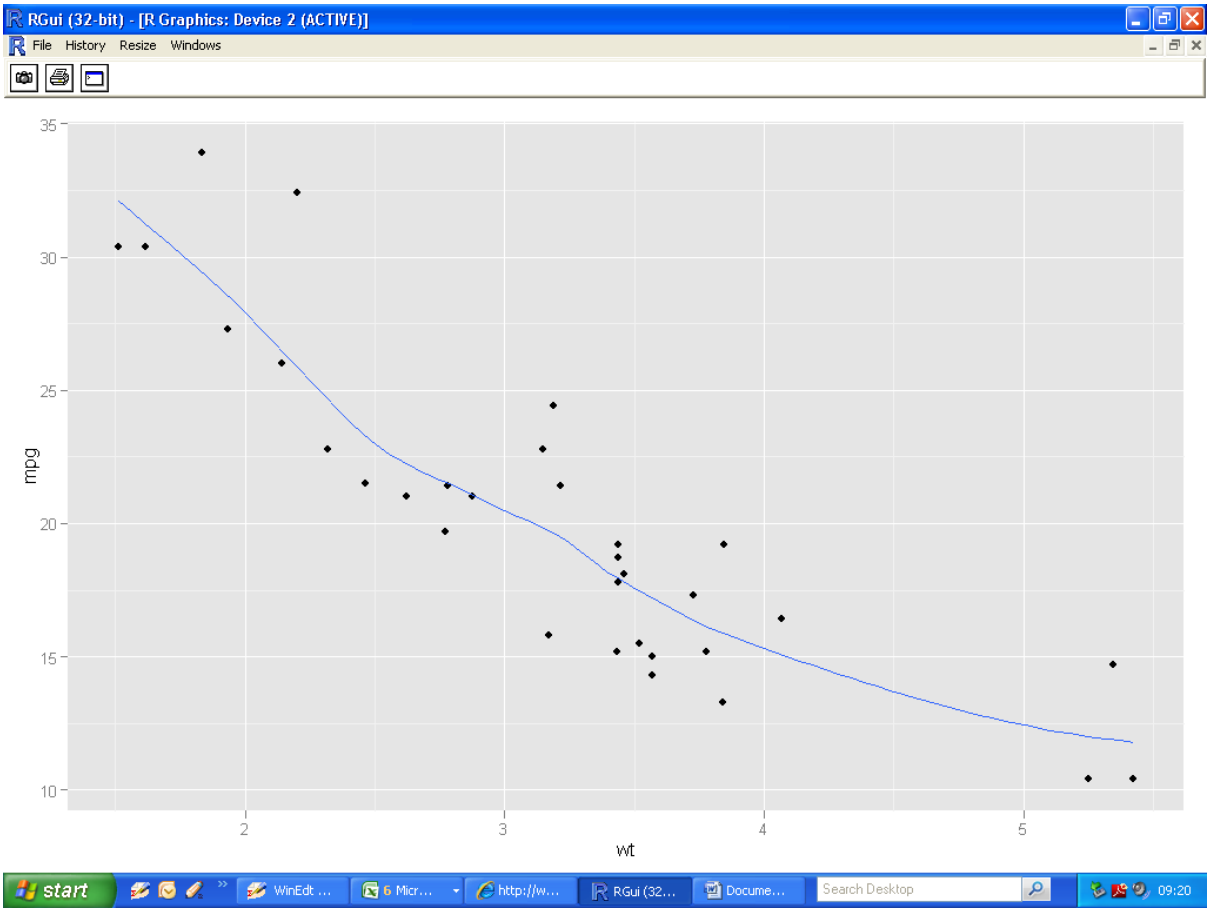
## Smoothing on a Scatterplot (with *loess* smoothing)

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



## Removing the standard error from the plot

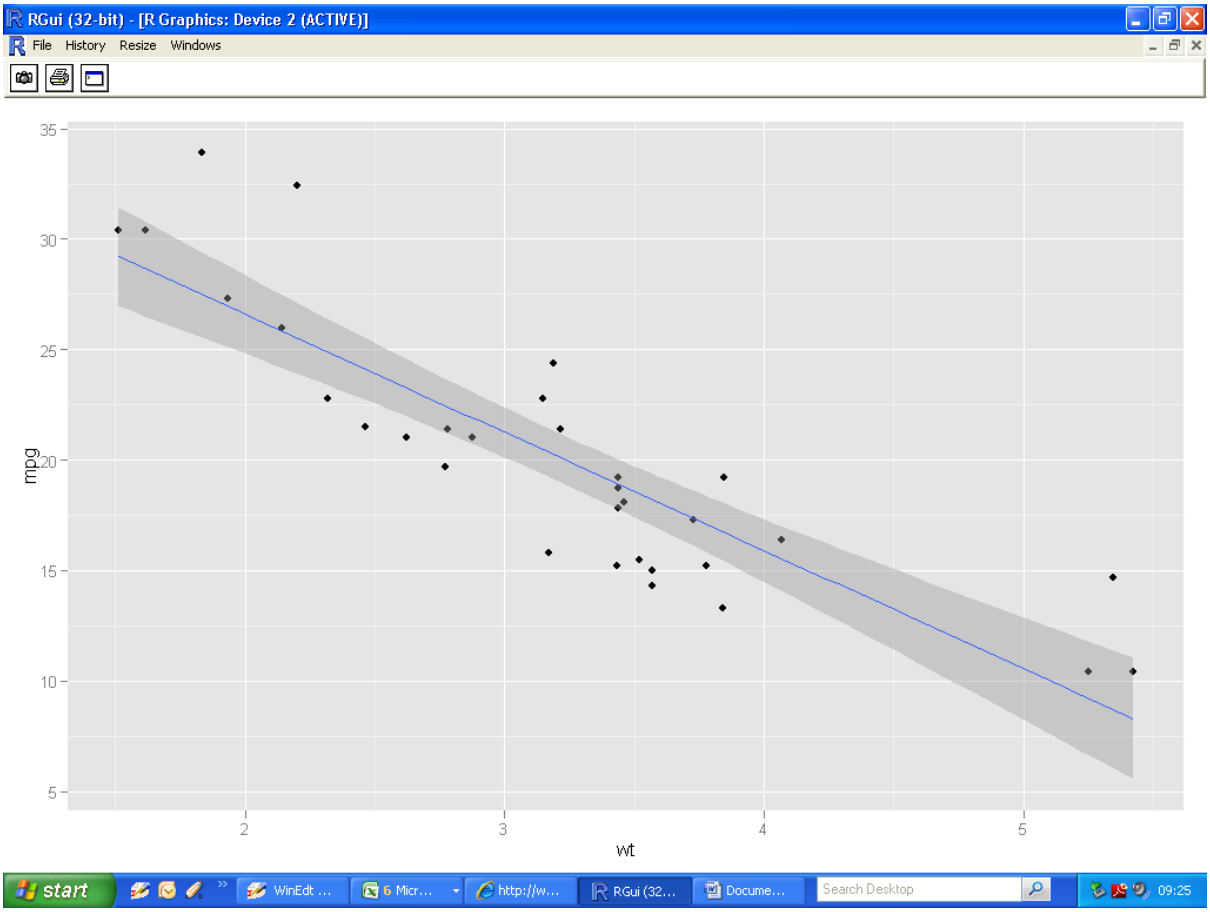
```
> qplot(wt, mpg, data=mtcars,
  geom=c("point", "smooth"),   se=FALSE)
>
```



## Linear Regression Models

Applying a simple linear regression model to data

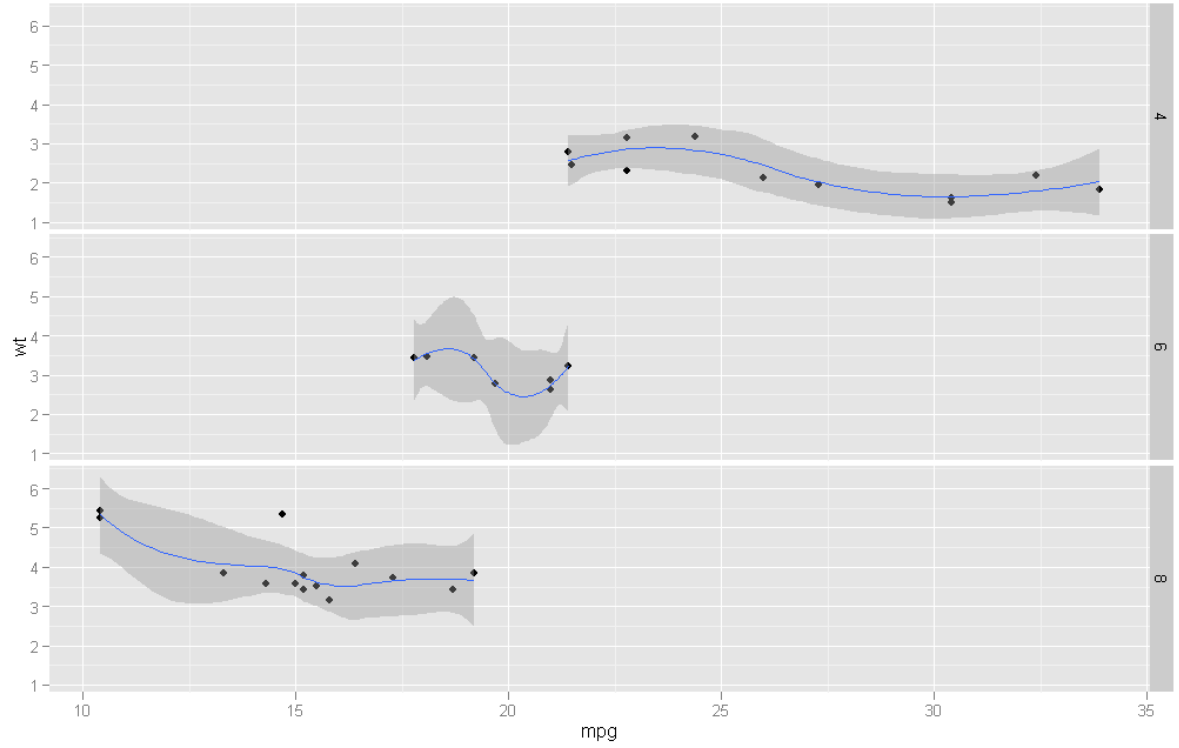
```
> qplot(wt, mpg, data=mtcars,
  geom=c("point", "smooth"),   method="lm")
>
```



## Facetting

- **Split into three subplots for each level of cylinder**
- **Each row corresponds to a level of cylinder.**

```
> qplot(mpg, wt, data=mtcars, facets= cyl~.,
geom=c("point", "smooth"))
```

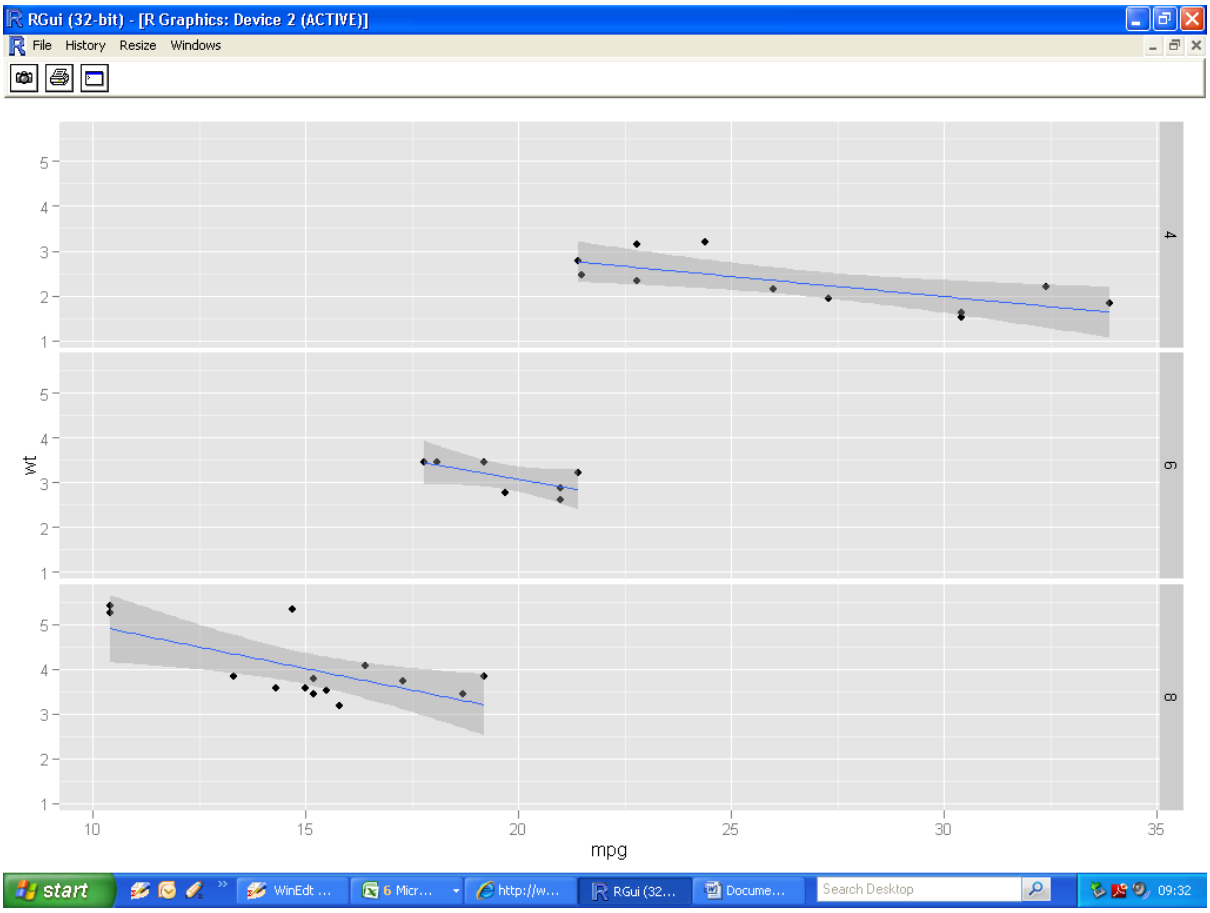



- **Three categories of cylinder : 4, 6 and 8**

## Facetting (example 2)

Using a linear regression model time

```
> qplot(mpg, wt, data=mtcars,
  facets=cyl~.,
  geom=c("point", "smooth"),   method="lm")
>
```



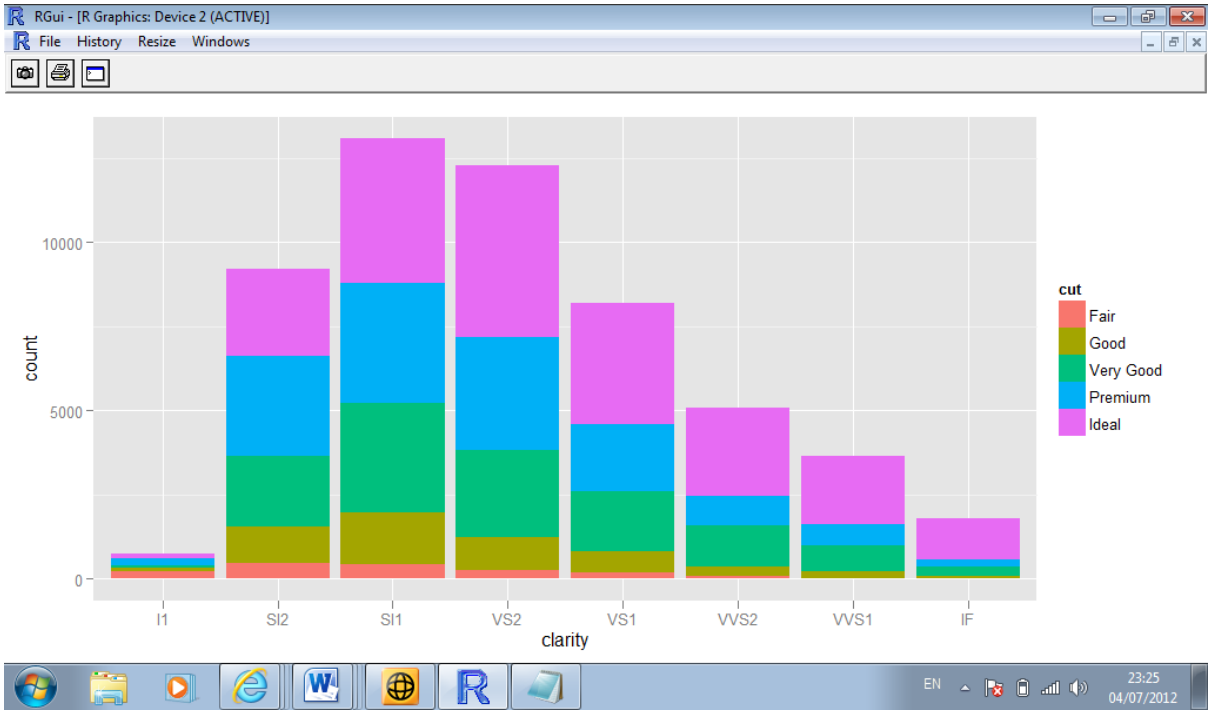
## Diamonds data set

```
> head(diamonds)
  carat       cut color clarity depth table price    x    y    z
1  0.23     Ideal     E     SI2  61.5    55   326 3.95 3.98 2.43
2  0.21   Premium     E     SI1  59.8    61   326 3.89 3.84 2.31
3  0.23      Good     E     VS1  56.9    65   327 4.05 4.07 2.31
4  0.29   Premium     I     VS2  62.4    58   334 4.20 4.23 2.63
5  0.31      Good     J     SI2  63.3    58   335 4.34 4.35 2.75
6  0.24 Very Good     J    VVS2  62.8    57   336 3.94 3.96 2.48
```

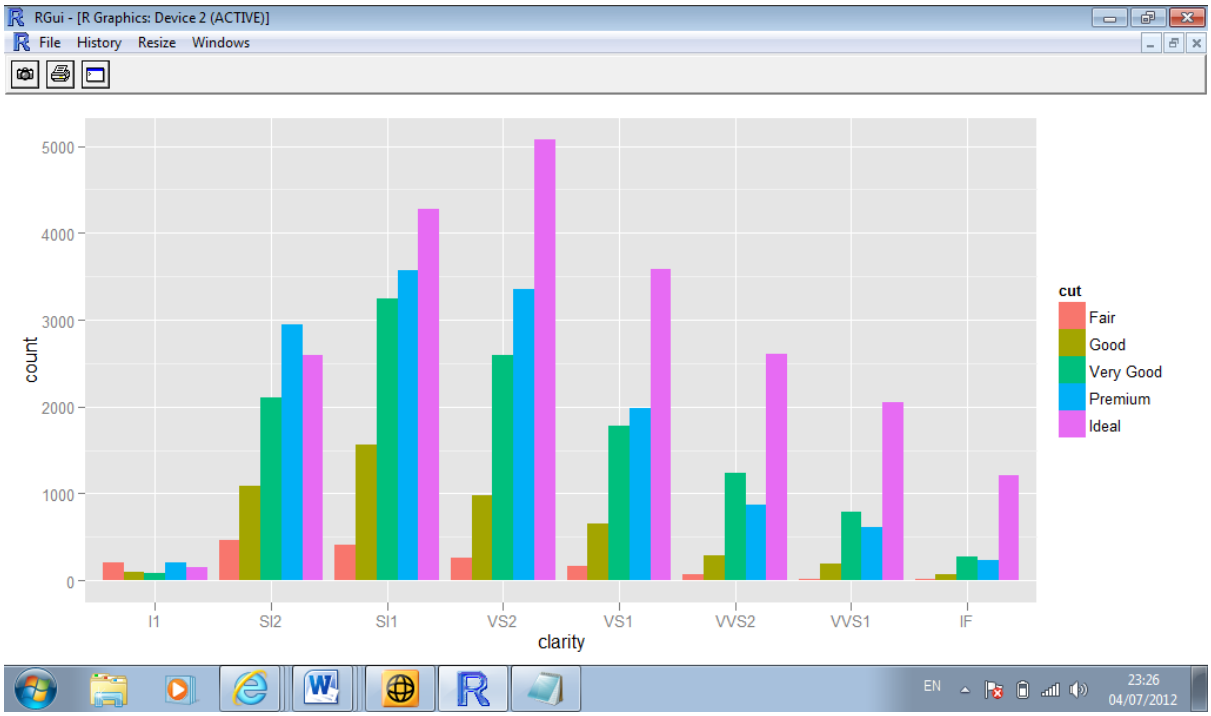
## Different display of bar plots

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

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

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

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

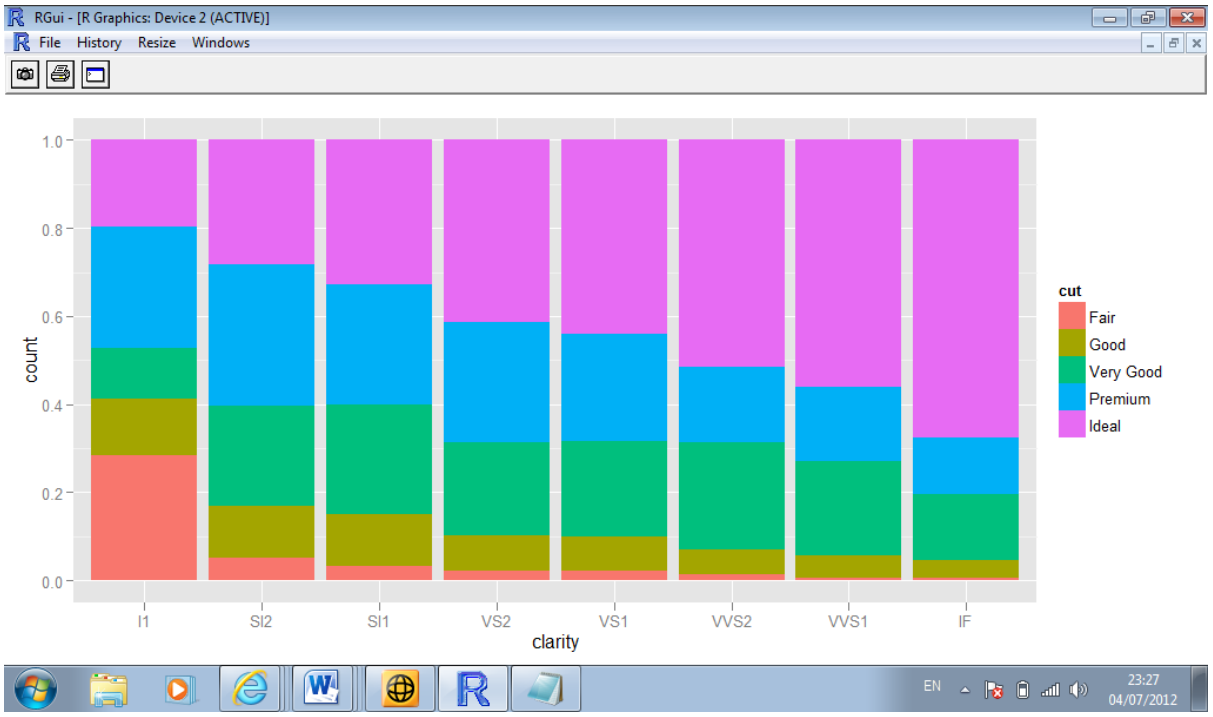
## 1. Stack



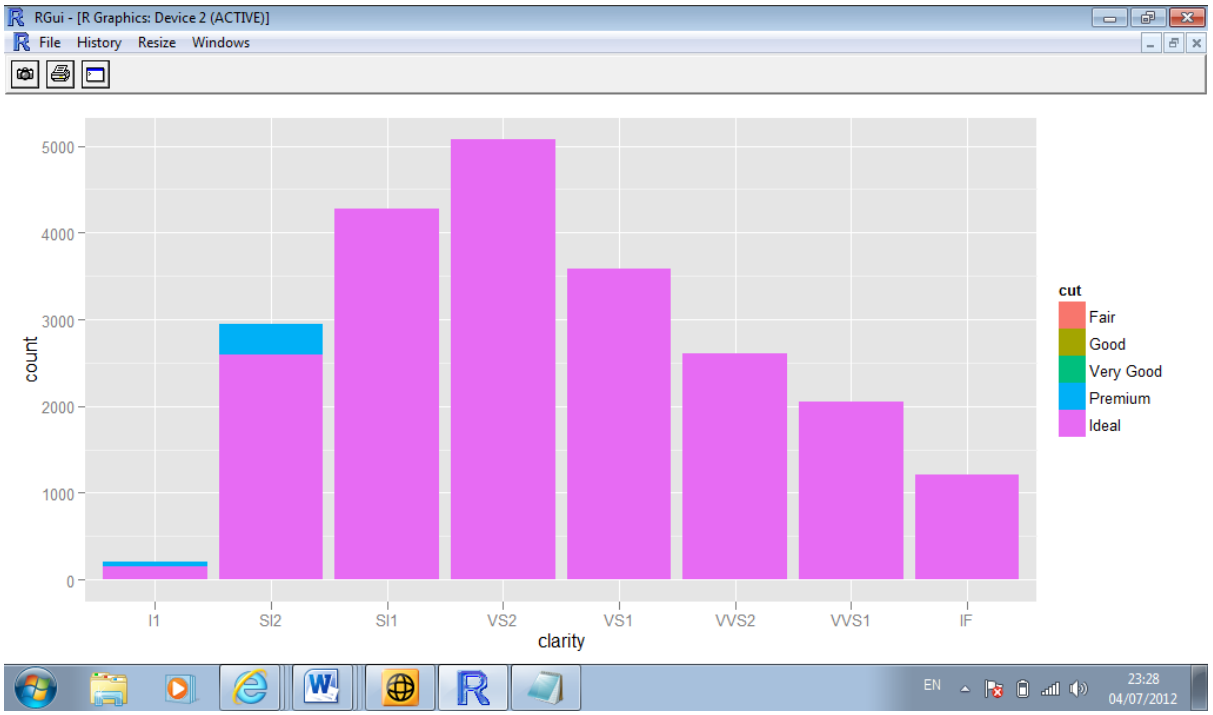

## 2. Dodge



## 3. Fill




## 4. Identity

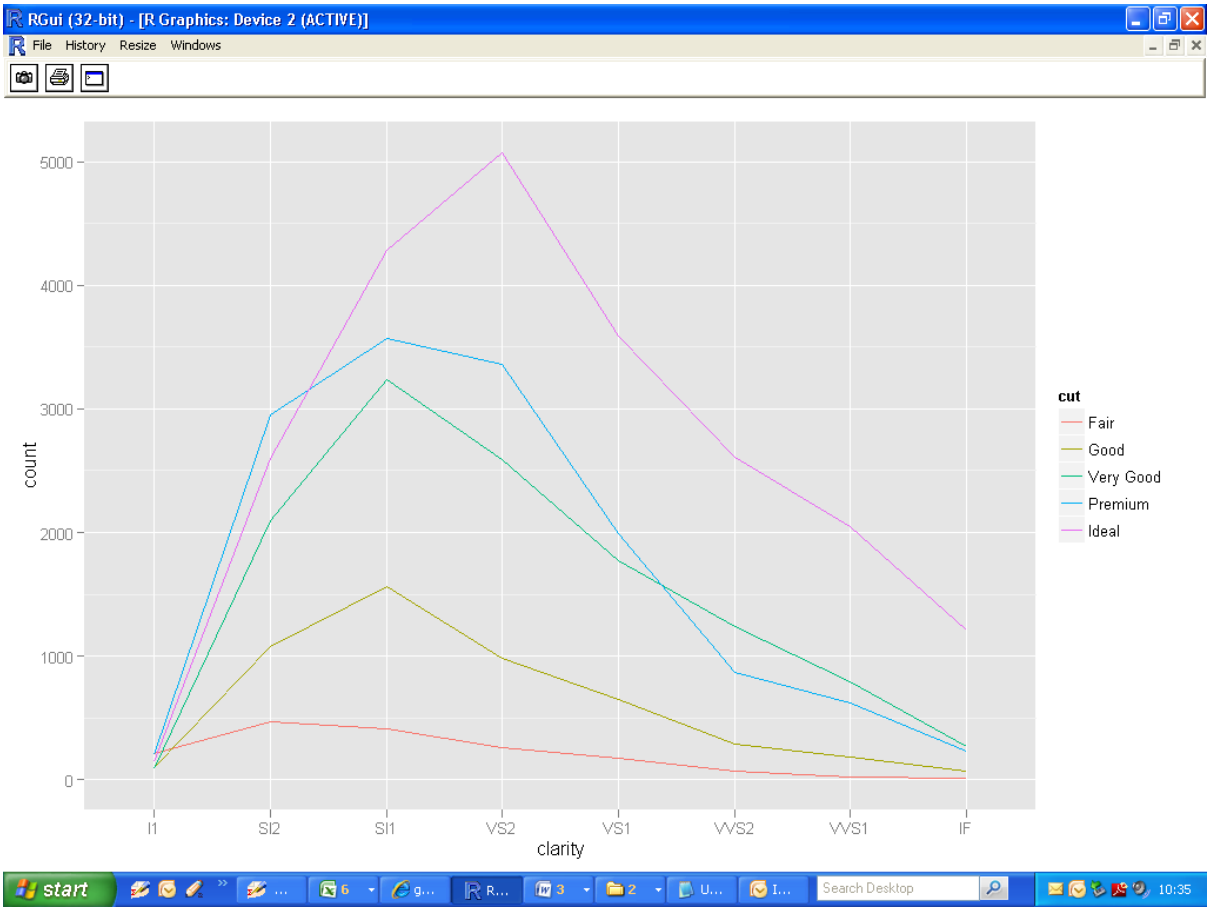


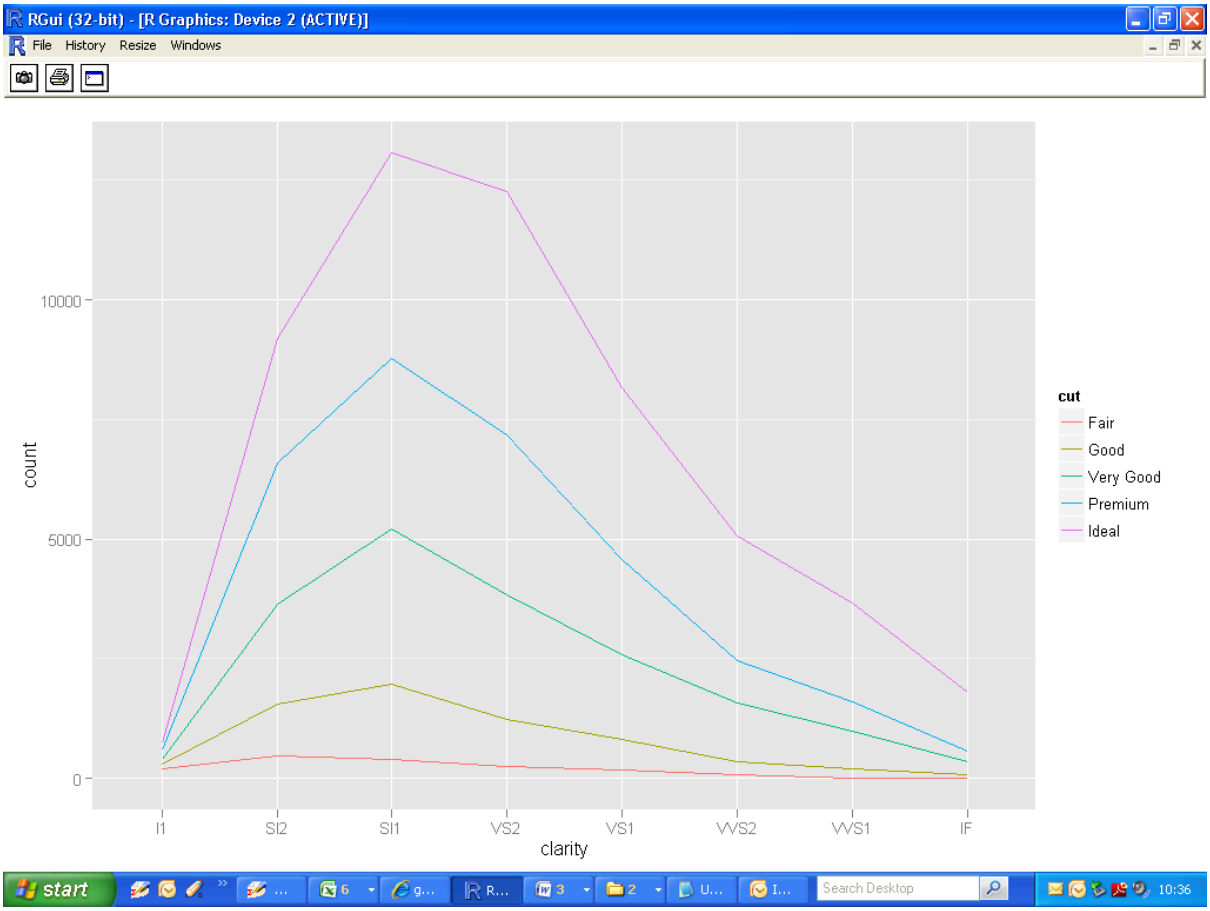
## Frequency Polygons

```
qplot(clarity, data=diamonds, geom="freqpoly",
group=cut, colour=cut, position="identity")

qplot(clarity, data=diamonds, geom="freqpoly",
group=cut, colour=cut, position="stack")
```

## Contingency table

```
> table(diamonds$cut,diamonds$clarity)

              I1   SI2   SI1   VS2   VS1 VVS2 VVS1   IF
  Fair       210   466   408   261   170   69   17    9
  Good        96  1081  1560   978   648  286  186   71
  Very Good   84  2100  3240  2591  1775 1235  789  268
  Premium    205  2949  3575  3357  1989  870  616  230
  Ideal      146  2598  4282  5071  3589 2606 2047 1212
```


RGui (32-bit) - [R Graphics: Device 2 (ACTIVE)]
File History Resize Windows
5000
4000
3000
2000
1000
0
count
I1
SI2
SI1
VS2
VS1
VVS2
VVS1
IF
clarity
cut
Fair
Good
Very Good
Premium
Ideal
start
Search Desktop
10:35


RGui (32-bit) - [R Graphics: Device 2 (ACTIVE)]
File History Resize Windows
10000
5000
0
count
I1
SI2
SI1
VS2
VS1
VVS2
VVS1
IF
clarity
cut
Fair
Good
Very Good
Premium
Ideal
start
Search Desktop
10:36