# Building a plot layer by layer

* To create a plot object, we use the command ggplot().
* This command has two arguments

1. Data : the data frame you wish to visualize.
2. Aesthetic mapping

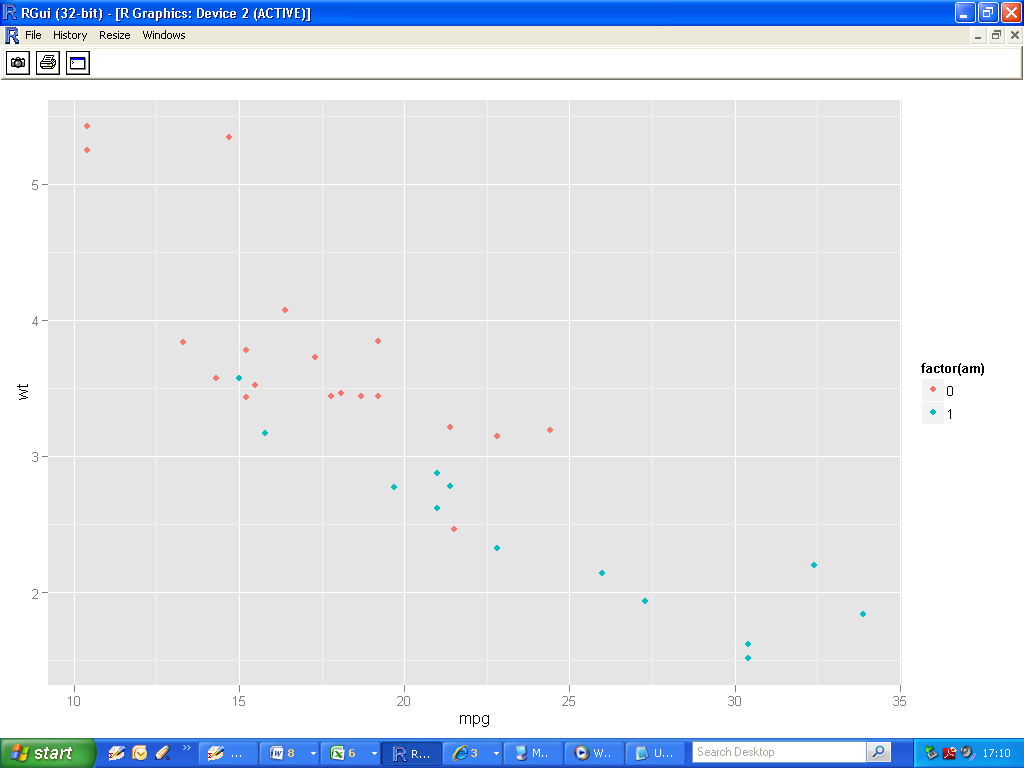
|  |
| --- |
| > P <- ggplot(mtcars, aes(mpg,wt,colour=factor(am)))  > |

* Nothing to see yet. We need to add some layers!
* (Try out the summary function on the object P)

# Adding Layers

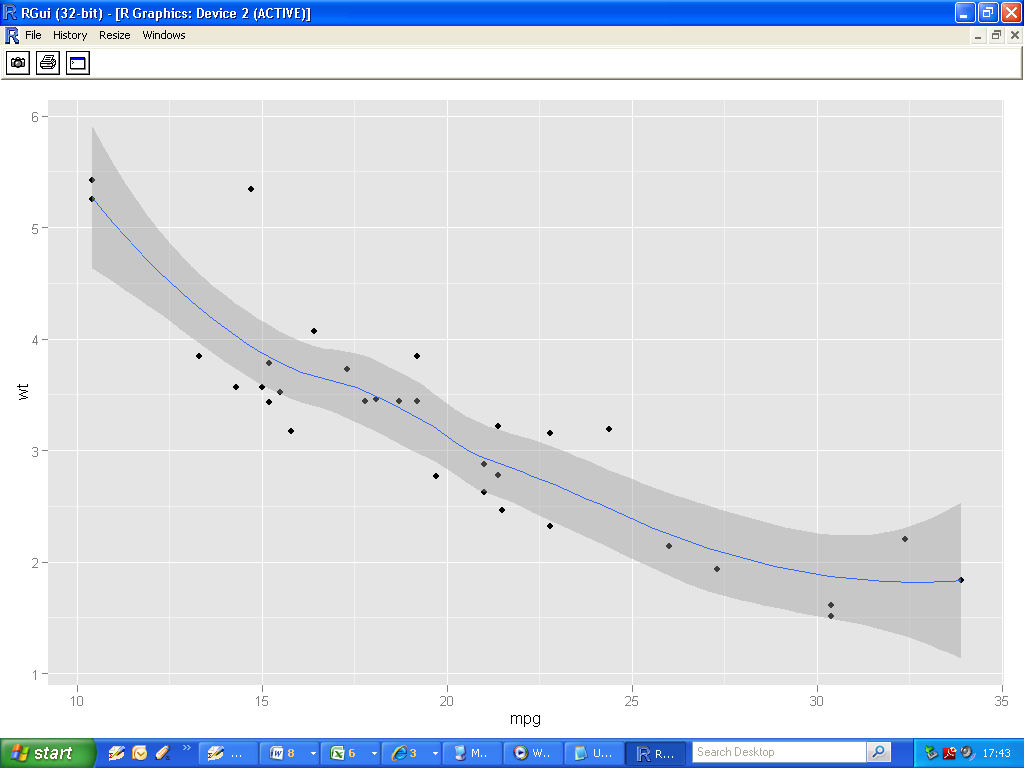
* If we add a ***point*** ***geom***, we can create a scatter-plot

|  |
| --- |
| > P + geom\_point()  > # alternatively: P + layer(geom="point") |



* We can add a smoothing line using the ***smooth geom.***

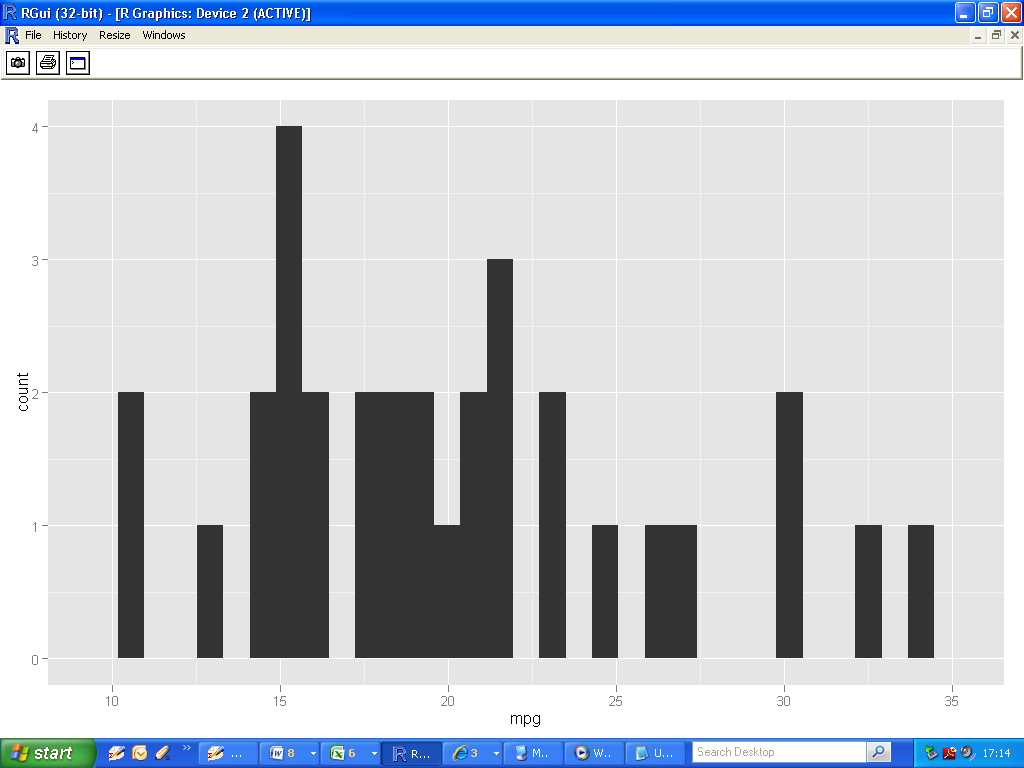
|  |
| --- |
| > P <- ggplot(mtcars, aes(mpg,wt))  > P + geom\_point()+geom\_smooth()  > |

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# Creating a simple histogram

* One (continuous) variable is specified in the ggplot() command.,
* (i.e. mpg as the x-variable).
* The appropriate geom is simply geom\_histogram().

|  |
| --- |
| > H <- ggplot(mtcars, aes(mpg))  > H + geom\_histogram() |



# Enhancing your histogram

* Simply adjust the relevant arguments in geom\_histogram()
* We change the bin width to 2
* And the fill colour to steelblue

|  |
| --- |
| > H <- ggplot(mtcars, aes(mpg))  > H + geom\_histogram(binwidth=2,fill="steelblue") |

