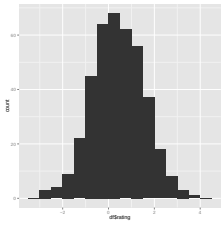
```
library(ggplot2)
opts_chunk$set(cache = TRUE, out.height = "3cm", out.width = "3cm")  # кэшируем все куски по
```

```
data(iris)
c <- cor(iris[1:4])
molten.iris <- melt(c)
names(molten.iris) <- c("M1", "M2", "corr")
molten.iris
```

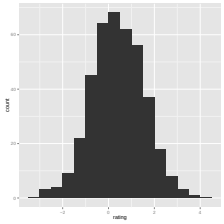
http://wiki.stdout.org/rcookbook/Graphs/

```
set.seed(1234)
df <- data.frame(cond = factor(rep(c("A", "B"), each = 200)), rating = c(rnorm(200),
    rnorm(200, mean = 0.8)))
```

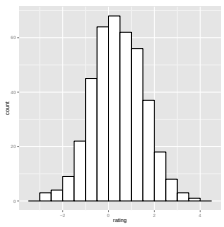
```
qplot(df$rating, binwidth=.5)
```



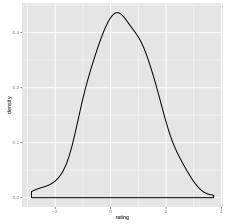
```
ggplot(df, aes(x=rating)) + geom_histogram(binwidth=.5)
```



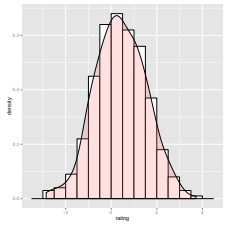
```
# Draw with black outline, white fill
ggplot(df, aes(x=rating)) + geom_histogram(binwidth=.5, colour="black", fill="white")
```



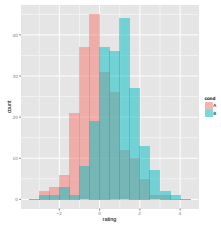
```
# Density curve
ggplot(df, aes(x=rating)) + geom_density()
```



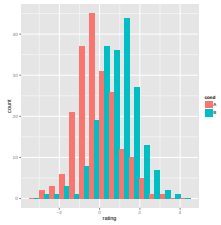
```
# Histogram overlaid with kernel density curve
ggplot(df, aes(x=rating)) +
    geom_histogram(aes(y=..density..),      # Histogram with density instead of count on y-a
                   binwidth=.5,
                   colour="black", fill="white") +
    geom_density(alpha=.2, fill="#FF6666")  # Overlay with transparent density plot
```



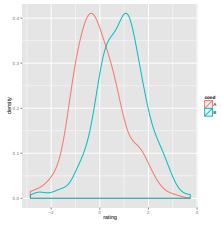
```
# Overlaid histograms
ggplot(df, aes(x = rating, fill = cond)) + geom_histogram(binwidth = 0.5, alpha = 0.5,
    position = "identity")
```



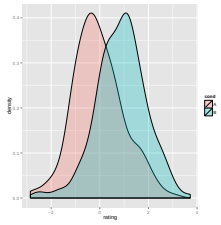
```
# Interleaved histograms
ggplot(df, aes(x = rating, fill = cond)) + geom_histogram(binwidth = 0.5, position = "dodge"
```



```
# Density plots
ggplot(df, aes(x = rating, colour = cond)) + geom_density()
```

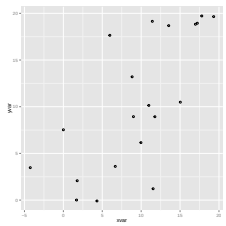


```
# Density plots with semi-transparent fill
ggplot(df, aes(x = rating, fill = cond)) + geom_density(alpha = 0.3)
```

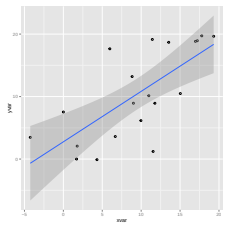


```
set.seed(955)
# Make some noisily increasing data
dat <- data.frame(cond = rep(c("A", "B"), each = 10), xvar = 1:20 + rnorm(20,
    sd = 3), yvar = 1:20 + rnorm(20, sd = 3))
```

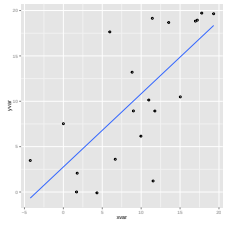
```
ggplot(dat, aes(x=xvar, y=yvar)) +
    geom_point(shape=1)      # Use hollow circles
```



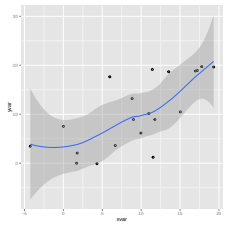
```
ggplot(dat, aes(x=xvar, y=yvar)) +
    geom_point(shape=1) +    # Use hollow circles
    geom_smooth(method=lm)   # Add linear regression line
```



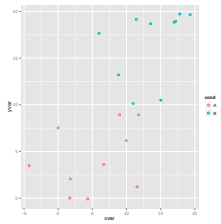
```
                             #  (by default includes 95% confidence region)

ggplot(dat, aes(x=xvar, y=yvar)) +
    geom_point(shape=1) +    # Use hollow circles
    geom_smooth(method=lm,   # Add linear regression line
                se=FALSE)    # Don't add shaded confidence region
```



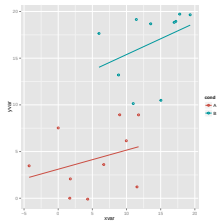
```
ggplot(dat, aes(x=xvar, y=yvar)) +
    geom_point(shape=1) +    # Use hollow circles
    geom_smooth()            # Add a loess smoothed fit curve with confidence region

## geom_smooth: method="auto"and size of largest group is <1000, so
using loess. Use 'method = x' to change the smoothing method.
```



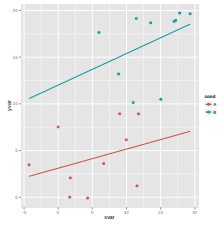
```
# Set color by cond
ggplot(dat, aes(x=xvar, y=yvar, color=cond)) + geom_point(shape=1)
```



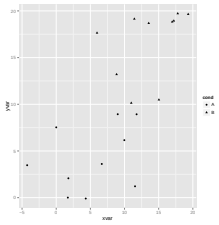
```
# Same, but with different colors and add regression lines
ggplot(dat, aes(x=xvar, y=yvar, color=cond)) + geom_point(shape=1) +
    scale_colour_hue(l=50) + # Use a slightly darker palette than normal
    geom_smooth(method=lm,   # Add linear regression lines
                se=FALSE)    # Don't add shaded confidence region
```



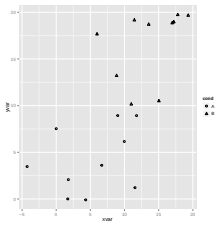
```
# Extend the regression lines beyond the domain of the data
ggplot(dat, aes(x=xvar, y=yvar, color=cond)) + geom_point(shape=1) +
    scale_colour_hue(l=50) + # Use a slightly darker palette than normal
    geom_smooth(method=lm,   # Add linear regression lines
                se=FALSE,    # Don't add shaded confidence region
                fullrange=T) # Extend regression lines
```



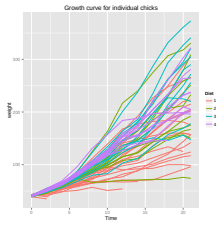
```
# Set shape by cond
ggplot(dat, aes(x=xvar, y=yvar, shape=cond)) + geom_point()
```



```
# Same, but with different shapes
ggplot(dat, aes(x=xvar, y=yvar, shape=cond)) + geom_point() +
    scale_shape_manual(values=c(1,2))  # Use a hollow circle and triangle
```

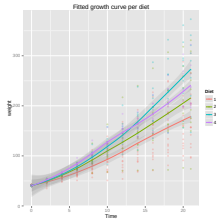


```
# This example uses the ChickWeight dataset, which comes with ggplot2
# First plot
p1 <- ggplot(ChickWeight, aes(x = Time, y = weight, colour = Diet, group = Chick)) +
    geom_line() + ggtitle("Growth curve for individual chicks")

# Second plot
p2 <- ggplot(ChickWeight, aes(x = Time, y = weight, colour = Diet)) + geom_point(alpha = 0.3
    geom_smooth(alpha = 0.2, size = 1) + ggtitle("Fitted growth curve per diet")

# Third plot
p3 <- ggplot(subset(ChickWeight, Time == 21), aes(x = weight, colour = Diet)) +
    geom_density() + ggtitle("Final weight, by diet")

# Fourth plot
p4 <- ggplot(subset(ChickWeight, Time == 21), aes(x = weight, fill = Diet)) +
    geom_histogram(colour = "black", binwidth = 50) + facet_grid(Diet ~ .) +
    ggtitle("Final weight, by diet") + theme(legend.position = "none")  # No legend (redunda

par(mfrow = c(2, 2))  # arrange in 2 rows and 2 cols

p1
```

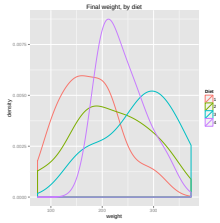



```
p2
```

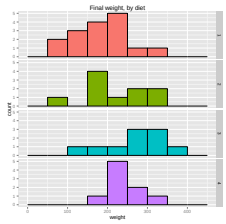
```
## geom_smooth: method="auto"and size of largest group is <1000, so
using loess. Use 'method = x' to change the smoothing method.
```



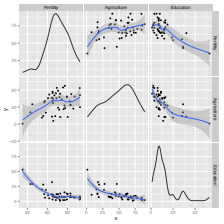

```
p3
```




```
p4
```




```
h <- swiss[, c("Fertility", "Agriculture", "Education")]
plotmatrix(h) + stat_smooth(method = "loess")
```




```
library(vcd)
mosaic(HairEyeColor, shade = TRUE, legend = TRUE)
```