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Ggplot2 cheat sheet

Adding text in a chart annotating multiple charts to chart boards free X and Y ladders axis multiple labels can't find what you're looking for? Let me know. Basic tasks Baseline plot setup <- ggplot(df, aes(x=xcol, y=ycol)) df must be a data frame that contains all the information to make the ggplot. The plot will appear only after the geometry layers have been added. Scatter Library (ggplot2) gg <- ggplot(Diamonds, aes(x=carat, y=price)) gg + geom_point() static - dot size, shape, color, and border thickness gg + geom_point(size = 1, shape = 1, color = steelblue, line = 2) # 'line' controls the thickness of a dynamic dot border - point size, shape, color, and border thickness Make the aesthetic vary depending on the df. gg + geom_point (aes(size = carat, shape = cut, color=color, stroke=carat)) # carat, cut and color variables in labels 'diamonds' Add title, X and Y axis gg1 <- gg + geom_point(aes(color=color)) gg2 <- gg1 + laboratories (title = diamonds, x = rat, y = price) # ggtitle(title) also changes the title. Print(gg2) Change the color of all text gg2 + Theme (element_text=Color=Blue)) # All text turns blue. Change title, X and Y axis label, and plot.title text size: Control plot title. axis.title.x: Controls X axis title axis.title.y: Controls Y axis title axis.text.x: Controls X axis text axis.text.y: Controls y axis text gg3 <- gg2 + theme(plot.title=element_text(size=25), axis.title.x=element_text(size=20), axis.title.y=element_text(size=20), axis.text.x=element_text(size=15), axis.text.y=element_text(size=15)) print(gg3) Change title face, color, line height gg3 + labs(title=Plot TitleSecond Line of Plot Title) + theme(plot.title=element_text(face=bold, color=steelblue, lineheight=1.2)) Change point color gg3 + scale_colour_manual(name='Legend', values=c('D'='grey', 'E'='red', 'F'='blue', 'G'='yellow', 'H'='black', 'I'='green', 'J'='firebrick')) Adjust X and Y axis limits Method 1: Zoom in gg3 + coord_cartesian(xlim=c(0,3), ylim=c(0, 5000)) + geom_smooth() # zoom in Method 2 מחיקת הנקודות מחוץ למגבלה gg3 + xlim(c(0,3)) + ylim(c(0, 5000)) + geom_smooth() # Deletes the dots #> Warning messages: #> 1: Removed 14714 rows containing tentative values (stat_smooth). #> 2: 14714 rows containing missing values (geom_point). Method 3: Delete the points outside the limits gg3 + scale_x_continuous(limits=c(0,3)) + scale_y_continuous(limits=c(0, 5000)) + geom_smooth() # Deletes the points outside the limits #> Warning message: #> Removed 14714 rows containing missing values (geom_point). Notice a change in line smoothing due to deleted points. It can sometimes be misleading in your surgery. Change axis labels X and Y gg3 + scale_y_continuous(labels=c(zero, one, two, three, four, five)) + scale_y_continuous(transitions=seq(0, 20000, 4000)) # If Y is continuous, if X is a factor use scale_x_discrete instead, if variable X is a variable Rotate gg3 axis text + theme (axis.text.x=element_text(angle = 45)) axis.text.y=element_text(angle = 45)) reverse X and Y axis gg3 + coord_flip() # becomes the X and Y axis. Gridlines and background board gg3 + theme (panel.background = element_rect(fill = 'springgreen'), panel.grid.major = element_line (color = firebrick, size = 3), panel.grid.minor = element_line (color = firebrick, size = 2), panel.grid.minor = element_line element_line(color= blue, size =1)) plot margins and background gg3 + theme (plot.background=element_rect(fill=yellow-green), plot.margin = unit(c(2, 4, You are one, I don't know what to do, 3), cm)) # Up, right colors, underwear, left-handed All color list is displayed in console R in color function(). Here are some of my suggestions for beautiful looking colors and backgrounds: steelblue (dots and lines) firebrick (dot and lines) springgreen (filling) purple (filling) tomatoes (filling) skyblue (bg) siena (dots, lines) slateblue (fills) sea green (dots, lines, fills) salmon (fills) salmon (fills) saddlebrown (lines) royalblue (fills) orange (dot, lines, fills) olivedrab (dots, lines, fills) midnight blue (lines) medium (dots, lines, Fillings) chestnut brown (dots, lines, fills) lime green (fills) green grass (lines, fills) dodgerbell (fills, bg) dimgray (grids, secondary bg) deeppink (fills) dark (lines, dots) If you're looking for consistent colors, the RColorBrewer pack has predefined colors and legend color palettes Hide Legend gg3 + theme(legend.position=none) # Hides legend Change Legend Title gg3 + scale_color_discrete(Name=)) # Remove Legend Header (method1) p1 <- gg3 + Theme (legend.title=element_blank() # Remove Legend Header (Method) p2 <- gg3 + scale_color_discrete(Name = Diamonds) # Change legend header library (gridExtra) grid.arrange(p1) , p2, ncol =2) # Arrange legend change and point color gg3 + scale_colour_manual (name = Legend, values = c('d'='Gray', 'E'='red', 'F'='blue', 'G'='yellow', 'H'='Black', 'I'm='Green', 'J'='firebrick')) Change legend position outside plot p1 <- gg3 + theme (legend.position =top) # Up / Down / Left / Right inside plot p2 <- gg3 + Theme (legend.justification = c(1,0), legend.position =c(1,0)) # Legendary justification is a Protect the legend given the lower-left corner of the legend as (0,0) gridExtra::grid.order(p1, p2, ncol =2) change order of legend items df$newLegendColumn <- factor (df$legendcolumn, levels =c(new_order_of_legend_items), parent=TRUE) creating a new factor variable used in the legend, arranged as needed. Then use this variable instead in the plot. Legend Title, Text, Box, Legend Icon.title - Change legend.text - Change Legend.key - Change Legend Box Guides - Change Legend Icons gg3 + Theme (legend.title = element_text(Size = 20, color = firebrick), legend.text = element_text(size =15), legend.key = element_rect(fill = 'steelblue')) + guides (color = guide_legend(override.aes= list (size = 2, shape = 4, line = 2) # legend Color and size, box color, icon color, size and shape. Plotting text and annotating inserting text in chart #> Do not activate: gg + geom_text(aes(xcol, ycol, label = round (labelCol), size = 3)) # global format gg + geom_text(label = color, color = color), size = 4) annotation #> gg3 + annotations (mytext, x = xpos, y = ypos, label =my text) # do not activate: global template library (grid) my_grob = grobTree(my custom text, x = 0.8, y = 0.2, gp = gpar (col =firebrick, fontsize = 25, fontface =bold)) gg3 + annotation_custom(my_grob) multiple labels multiple chart boards p1 <- gg1 + facet_grid(color ~ crop) # arrange in grid. More room for storylines. Free X and Y axis scales by setting scale ='Free', X and Y axis scales are free. Use scale ='free_x' to release only X-axis and scale = 'free_y' to release only the Y. p2 <- gg1 + facet_wrap axis (color ~ cut, scales = free) # Release the x and y axis scales. ncol=2) Geometric layers Adding smooth line gg3 + geom_smooth(aes(color=color)) # Method can be - 'lm', 'loess', 'gam' add horizontal / vertical line p1 <- gg3 + geom_hline(yintercept =5000, size = 2, linetype =dotted, color = blue) # Dashed, dotted, dot, longdash, and twodash p2 <- gg3 + geom_vline(xintercept=4, size =2, color=firebrick) p3 <- gg3 + geom_segment(aes(x= 4, y=5000, xend=4, yend=10000, size =2, lineend =round)) p4 <- gg3 + geom_segment(aes(x=carat) y =price , xend =carat, yend = price-500, color = color), size = 2) + coord_cartesian(xlim = c(3, 5)) #x, y: starting points. xend, yend: Endpoint GridExtra::grid.arrange(p1, p2, p3, p4, ncol =2) Insert bar chart # Frequency bar chart: Specify only X axis. gg <- ggplot(mtcars, aes(x=cyl)) gg + geom_bar() # gg frequency table #>: gg + geom_bar(position=dodge, aes (fill = factor (vs)) # side by side gg2 <- gg + geom_bar(aes(fill= factor(vs)) # stacked gridExtra::grid.arrange(p1, p2, ncol=2) # Absolute line chart: Specify both X and Y axis. set stat=df identity <- Aggregate (mtcars$mpg, by = list (mtcars $cyl), FUN =mean) # average of mpg for all 'cyl' names (df) <- c(cyl, mpg) head(df) #> cyl mpg head(df) #> 1 4 26.66 #> 2 6 19.74 #> 3 8 1 5.10 gg_bar <- ggplot(df, aes(x=cyl, y=mpg)) + geom_bar (stat=identity) # Y axis is explicit. 'stat=identity print(gg_bar) separate color for gg_bar <- ggplot(df, aes(x=cyl, y=mpg)) + geom_bar(stat=identity, aes(fill=cyl)) Change gg_bar color and bandwidth df$cyl <- as.factor(df$cyl) gg_bar <- ggplot(df, aes(x=cyl, y=mpg)) + geom_bar (stat= identity, aes(fill = cyl), width = 0.25) gg_bar + scale_fill_manual (values = c((4=Steel Blue, 6=firebrick, 8=darkgreen)) Change color library (RColorBrewer) display.brewer.all(n=20, exact.n=FALSE) # Display ggplot available color palettes (mtcars, aes(x=cyl, y= carbohydrates, fill = factor (cyl) + geom_bar (stat=identity) + + # ## קו לוח האדמים מוצ תרשים קו שם לוח 1 :שיטה gg <- ggplot(כללה, aes(x= התקנה # תאריך)) gg + geom_line(aes(y =psavert), צבע, 2 = גודל = firebrick) + geom_line(aes(y = uempmed), צבע, 1 גודל =steelblue, linetype =twodash) # קושה נוקמ נוקמ: מוצג, מקוסקו, מוקמ, קוה זמנינו סוגי קווים מקוקמ: אין מקרא # longdash I- twodash # ספרייה :2 שיטה (reshape2) df_melt <- :כללכ)להמים כללכ(c, תאריך psavert, uempmed)], id= תאריך)) gg <- ggplot(df_melt, aes(x=date)) gg + geom_line(aes(y= 1 = גודל = משתנה), (ערך, צבע = משתנה) + scale_color_discrete ספרייה (שם (ggfortify) autoplot (AirPassengers) 2 = גודל = AirPassengers)) + (2 = מעבדות (כותרת, id=date) dates date variable value #> 1 1967-07-01 psavert 12.5 #> 2 1967-08-01 psavert 12.5 #> 3 1967-09-01 psavert 11.7 p1 <- ggplot(df, aes(x=date)) + geom_area(aes(y=value, fill=variable)) + labs(title=Non-Overlapping - psavert and uempmed) # Method2: Overlapping Area p2 <- ggplot(economics, aes(x=date)) + geom_area(y=psavert), fill=yellowgreen, color=yellowgreen) + geom_area(y=uempmed), fill=dodgerblue, alpha=0.7, linetype=dotted) + labs(title=Overlapping - psavert and uempmed) gridExtra::grid.arrange(p1, p2, ncol=2) Boxplot and Violin The oulier points are controlled by the following aesthetics: * outlier.shape * outlier.size * outlier.size * outlier.colour If the notch is turned on (by setting it TRUE) , the below boxplot is produced. אחרת, היית מקבל את עלילות הקופסה המלבניית הסטנדרטיית p1 <- ggplot(mtcars, aes(cyl), + geom_boxplot(aes(fill = factor(cyl)), width=0.5, outlier.colour = dodgerblue, outlier.size = 4, outlier.shape = 16, outlier.stroke = 2, notch=T) + labs(title=Box plot) # boxplot p2 <- ggplot(mtcars, aes(factor(cyl), mpg)) + geom_violin(aes(fill = factor(cyl)), width=0.5, trim=F) + labs(title=Violin plot (untrimmed)) # violin plot gridExtra::grid.arrange(p1, p2, ncol=2) Density ggplot(mtcars, aes(mpg)) + geom_density(aes(fill = factor(cyl)), size = 2) + labs(title=Density plot) # Density plot Tiles corr <- round(cor(mtcars), 2) df <- reshape2::melt(corr) gg <- ggplot(df, aes(x=Var1, y=Var2, fill=value, label=value)) + geom_tile() + theme_bw() + geom_text(aes(label=value, size=value), color=white) + labs(title=mtcars - Correlation plot) + theme(text=element_text(size=20) , legend.position=none) library(RColorBrewer) gg3 <- gg + scale_fill_distiller(palette=Reds) p3 <- gg + scale_fill_gradient2() gridExtra ::grid.arrange(gg, p2, p3, ncol =3) ncol=3)

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