Examples of output from plotting functions

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Some minimal examples showing the output of plots from the examples.

1 autoplot.Ten
The ‘autoplot’ function is a generic S3 method used by ‘ggplot2’.

1.1 Simple examples

data("kidney", package="KMsurv")
t1 <- ten(survfit(Surv(time, delta) ~ type, data=kidney))
## Error in ten(survfit(Surv(time, delta) ~ type, data = kidney)): could not find function "ten"
autoplot(t1)
## Error in autoplot(t1): could not find function "autoplot"

Now, we increase the line size and use jitter to prevent overlap; we also make the relative size of the table larger.

print(autoplot(t1, type="fill", survLineSize=2, jitter="all"), tabHeight=0.35)
## Error in autoplot(t1, type = "fill", survLineSize = 2, jitter = "all"): could not find function "autoplot"

A more customized example follows. Note that we return only the element marked ‘plot’ from the result (which is a list with two elements).

autoplot(t1, timeTicks="months",
        type="CI", jitter="all",
        legLabs=c("surgical", "percutaneous"),
        title="Time to infection following catheter placement \nby type of catheter, for dialysis patients",
        titleSize=10, censSize=2)$plot
Here we assign the result in order to modify the y axis.

```r
str(a1 <- autoplot(t1), max.level=1)
## Error in autoplot(t1): could not find function "autoplot"

## check the output is what we want
a1$plot + ggplot2::scale_y_continuous(limits=c(0.8, 1), name="Survival")
## Error in eval(expr, envir, enclos): object 'a1' not found

## this is one simple way
a1 <- autoplot(t1)
## Error in autoplot(t1): could not find function "autoplot"

suppressMessages(a1$plot <- a1$plot +
        ggplot2::scale_y_continuous(limits=c(0.8, 1), name="Survival"))
## Error in withCallingHandlers(expr, message = function(c) invokeRestart("muffleMessage")): object 'a1' not found

## Error in eval(expr, envir, enclos): object 'a1' not found

## or we can assign them as follows
a1 <- autoplot(t1)
## Error in autoplot(t1): could not find function "autoplot"

ls(a1$plot$scales$scales[[3]]$super$super)
## Warning in ls(a1$plot$scales$scales[[3]]$super$super): 'a1$plot$scales$scales[[3]]$super$super' converted to character string

## Error in as.environment(pos): no item called "a1$plot$scales$scales[[3]]$super$super" on the search list

is.environment(a1$plot$scales$scales[[3]]$super$super$limits)
## Error in eval(expr, envir, enclos): object 'a1' not found

is.null(a1$plot$scales$scales[[3]]$super$super$limits)
## Error in eval(expr, envir, enclos): object 'a1' not found

a1$plot$scales$scales[[3]]$super$super$limits <- c(0.8, 1)
## Error in a1$plot$scales$scales[[3]]$super$super$limits <- c(0.8, 1): object 'a1' not found

a1
## Error in eval(expr, envir, enclos): object 'a1' not found
```
1.2 Modifying the legend

Reordering the legend labels (example with 3 groups).

```r
data("bmt", package="KMsurv")
b1 <- ten(Surv(time=t2, event=d3) ~ group, data=bmt)

## Error in ten(Surv(time = t2, event = d3) ~ group, data = bmt): could not find function "ten"

autoplot(b1)

## Error in autoplot(b1): could not find function "autoplot"

autoplot(b1, legOrd=c(1, 3, 2))

## Error in autoplot(b1, legOrd = c(1, 3, 2)): could not find function "autoplot"

Here we also re-label the legend.

autoplot(b1, legOrd=c(3, 2, 1), legLabs=letters[1:3])

## Error in autoplot(b1, legOrd = c(3, 2, 1), legLabs = letters[1:3]): could not find function "autoplot"

Now, let’s put the legend inside the plot itself.

a2 <- autoplot(b1)

## Error in autoplot(b1): could not find function "autoplot"

## ensure this is what we want
a2$plot + ggplot2::theme(legend.position=c(0.75, 0.75))

## Error in eval(expr, envir, enclos): object 'a2' not found
a2$plot <- a2$plot + ggplot2::theme(legend.position=c(0.75, 0.75))

## Error in eval(expr, envir, enclos): object 'a2' not found
a2

## Error in eval(expr, envir, enclos): object 'a2' not found
```

1.3 One group only

A number of options for plotting a line with just one group.
t2 <- ten(survfit(Surv(time=time, event=delta) ~ 1, data=kidney))

## Error in ten(survfit(Surv(time = time, event = delta) ~ 1, data = kidney)): could not find function "ten"

autoplot(t2, legLabs="")$plot

## Error in autoplot(t2, legLabs = ": could not find function "autoplot"

autoplot(t2, legend=FALSE)

## Error in autoplot(t2, legend = FALSE): could not find function "autoplot"

1.4 Using confidence bands

Here we change the default pointwise confidence intervals to bands.

data("rectum.dat", package="km.ci")
t3 <- ten(survfit(Surv(time, status) ~ 1, data=rectum.dat))

## Error in ten(survfit(Surv(time, status) ~ 1, data = rectum.dat)): could not find function "ten"

## change confidence intervals to confidence bands

.ci(t3, how="nair", tL=1, tU=40)

## Error in .ci(t3, how = "nair", tL = 1, tU = 40): could not find function "ci"

autoplot(t3, type="fill", alpha=0.6, legend=FALSE)

## Error in autoplot(t3, type = "fill", alpha = 0.6, legend = FALSE): could not find function "autoplot"

1.5 More customization

If the output of ‘autoplot.ten’ is assigned, it can be modified in place. The list elements are ggplot2 objects which can be altered as usual.

## manually changing the output

t4 <- ten(survfit(Surv(time, delta) ~ type, data=kidney))

## Error in ten(survfit(Surv(time, delta) ~ type, data = kidney)): could not find function "ten"

(a4 <- autoplot(t4, type="CI", alpha=0.8, survLineSize=2)$plot)

## Error in autoplot(t4, type = "CI", alpha = 0.8, survLineSize = 2): could not find function "autoplot"
2 autoplot.StratTen

An example of the plots from a stratified model:

```r
data("pbc", package="survival")
t1 <- ten(Surv(time, status==2) ~ trt + strata(edema), data=pbc, abbNames=FALSE)
```

```r
## Error in ten(Surv(time, status == 2) ~ trt + strata(edema), data = pbc, : could not find function "ten"

suppressWarnings(str(a1 <- autoplot(t1), max.level=1))
```

```r
## Error in autoplot(t1): could not find function "autoplot"

a1
```

## Error in eval(expr, envir, enclos): object 'a1' not found

3 profLik

Plotting profile likelihood.

```r
data("pbc", package="survival")
c1 <- survival::coxph(formula = Surv(time, status == 2) ~ age + edema + log(bili) + log(albumin) + log(protime), data = pbc)
```

```r
## Error in Surv(time, status == 2): could not find function "Surv"

profLik(c1, col="red", devNew=FALSE)
```

```r
## Error in profLik(c1, col = "red", devNew = FALSE): could not find function "profLik"
```