Make a Gantt Chart

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Gantt Chart generation from a .csv file

This takes a .csv file and builds a Gantt chart from it. The file must have at least the following columns (case-sensitive):

1. task - the name of the task (string)
2. smonth - the starting month (integer from 1-12)
3. syear - the starting year (YYYY)
4. length - How many months (Integer)
5. status - The current status of the task- eg. Complete, In Progress (String)

Requires the libraries reshape, ggplot2, and lubridate.

```
library(reshape2)
library(ggplot2)
library(lubridate)
```

Import the .csv file.

```
dates <- read.csv(file.choose())
head(dates)
```

```
##                     task start_month start_year length      status
## 1  Familiarize with code           1       2017      2    Complete
## 2 Obtain/import GIS data           2       2017      2    Complete
## 3      Analyze elevation           4       2017      2 In progress
## 4    Meet with committee           6       2017      1    Upcoming
## 5      Literature review           5       2017      6 In progress
## 6  Research bear ecology          10       2017      3    Upcoming
```

Converts the date columns to R date objects

```
dates$r_sdate <- as.Date(
  paste(01, dates$start_month, dates$start_year, sep = "-"), "%d-%m-%Y"
  )
dates$r_edate <- dates$r_sdate %m+% months(dates$length)
```

Creates bimonthly tick markers based on the number of years examined

```
years <- append(unique(dates$start_year), unique(dates$start_year)[-1] + 1)
months <- seq(1,12, by = 2)
years <- (lapply(years, FUN =function(x) { rep(x, 6)}))
tickdates <- as.Date(paste(1, months, unlist(years), sep = "/"), "%d/%m/%Y")
```

Reorders the data by earliest start date and task duration then melts it to long format.

```
dates<-dates[order(dates$r_sdate, dates$length),]
dates$order <- nrow(dates):1
mdates <- melt(dates, measure.vars = c("r_sdate", "r_edate"))
```

Plot the chart. Note that the PDF output (below) is constrained; output to an image file or to the viewer window allows for much nicer plotting. Play with the theme elements to customize the look of the plot.

```
ggplot(mdates, aes(x=value, y = reorder(task, order), col = status))+
  scale_colour_grey(start = 0.8, end = 0)+
  geom_line(size = 8.5) +
  xlab(NULL)+
  ylab(NULL)+
  theme_classic()+
  theme(
    legend.position = c(0.85,0.85),
    legend.margin = margin(2,0.5,2,0.5, "cm"),
    legend.text = (element_text(size = 8)),
    legend.key.size = unit(0.6, "cm"),
    legend.title = (element_blank()),
    axis.text.x = element_text(angle  = 45, hjust = 1, size = 9),
    axis.text.y = element_text(size = 8),
    panel.grid.major.x = element_line(size = 0.5, color = "grey90")
  ) +
  scale_x_date(breaks = tickdates,date_labels = "%b-%Y")
```