Evaluating Types of Graphs

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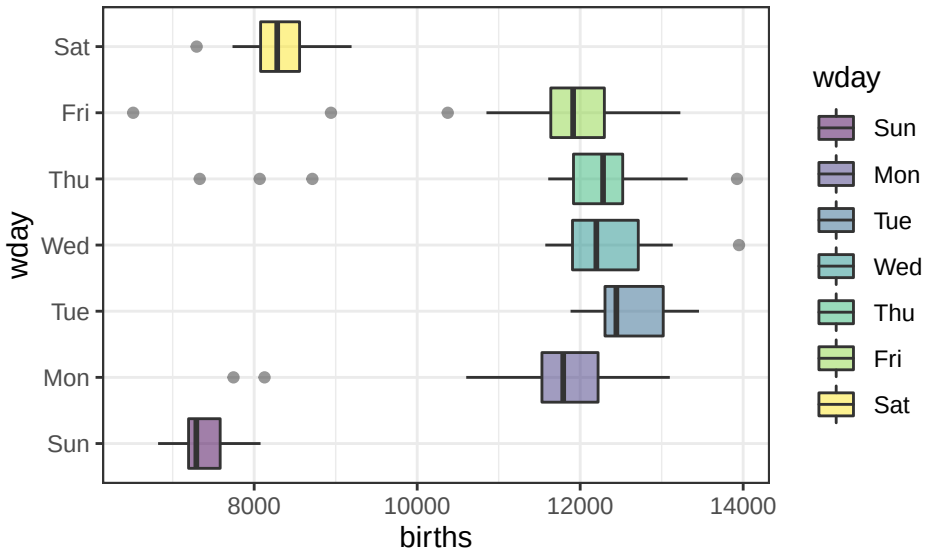
Weekday (Categorical/Ordinal) and Births (Numerical)

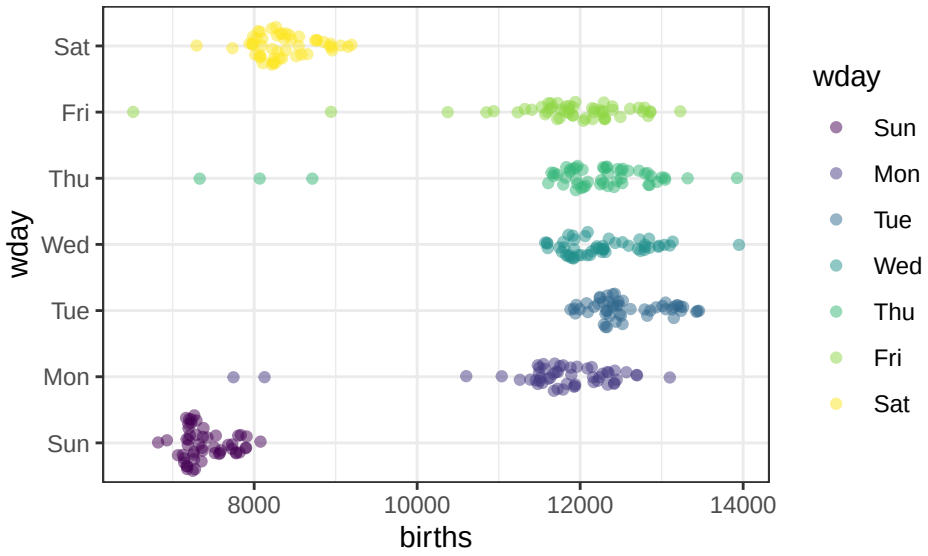
```
help("Births2015")
head(Births2015)
```

```
##         date births wday year month day_of_year day_of_month day_of_week
## 1 2015-01-01   8068  Thu 2015     1           1            1           5
## 2 2015-01-02  10850  Fri 2015     1           2            2           6
## 3 2015-01-03   8328  Sat 2015     1           3            3           7
## 4 2015-01-04   7065  Sun 2015     1           4            4           1
## 5 2015-01-05  11892  Mon 2015     1           5            5           2
## 6 2015-01-06  12425  Tue 2015     1           6            6           3
```

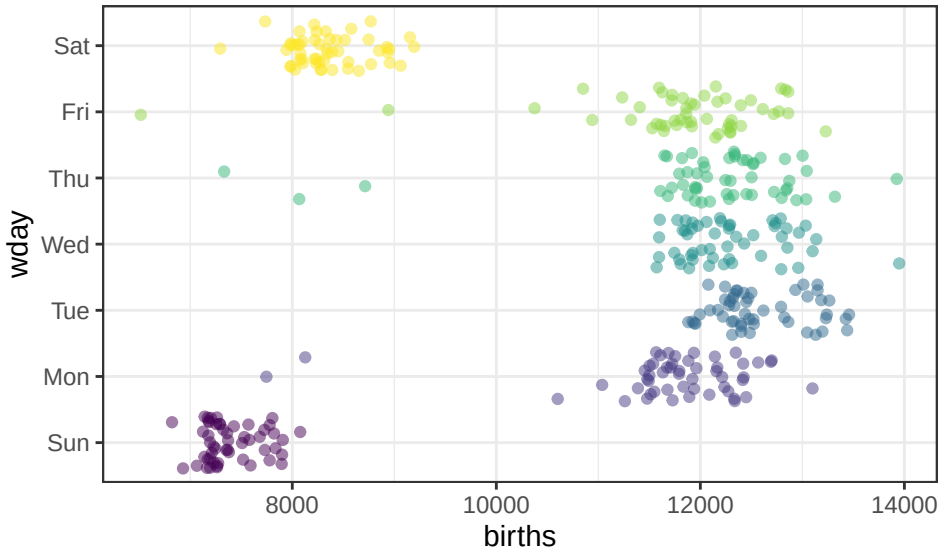
```
gf_boxplot(wday~births,fill=~wday,data=Births2015,alpha=0.5)
```



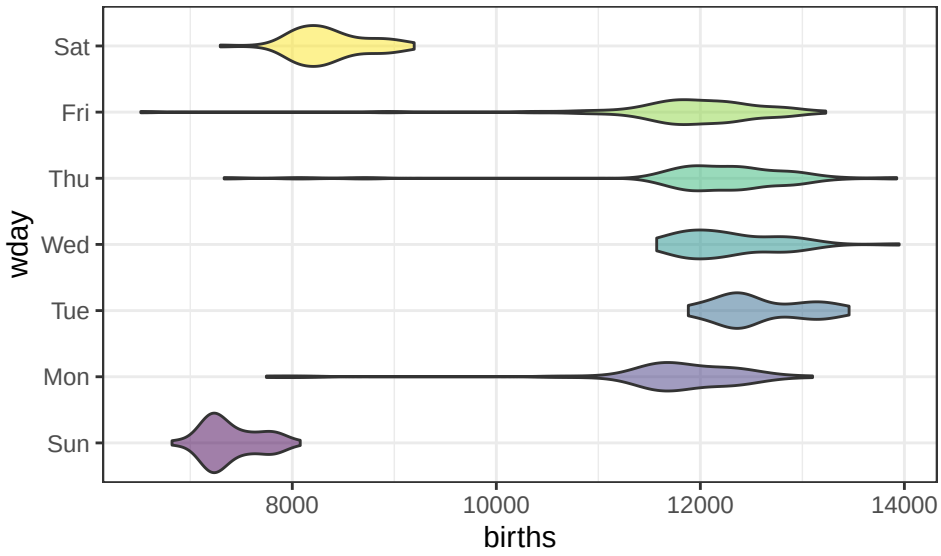

```
gf_sina(births~wday,color=~wday,data=Births2015,alpha=0.5) %>%
  gf_refine(coord_flip())
```




```
# gf_jitter(wday~births,color=~wday,data=Births2015,alpha=0.5,shape=~wday)
gf_jitter(wday~births,color=~wday,data=Births2015,alpha=0.5,show.legend = FALSE)
```

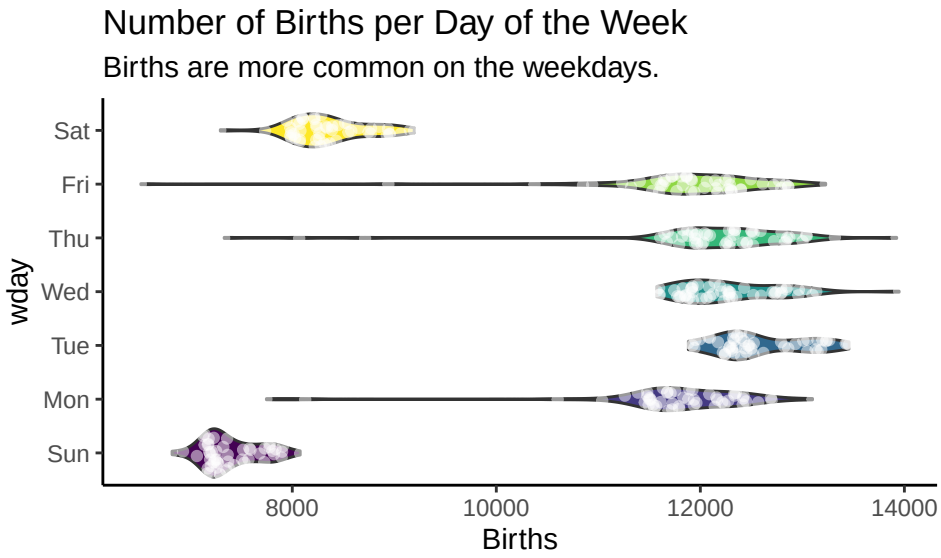



```
gf_violin(wday~births,fill=~wday,data=Births2015,alpha=0.5) %>%
  gf_theme(legend.position= "none")
```



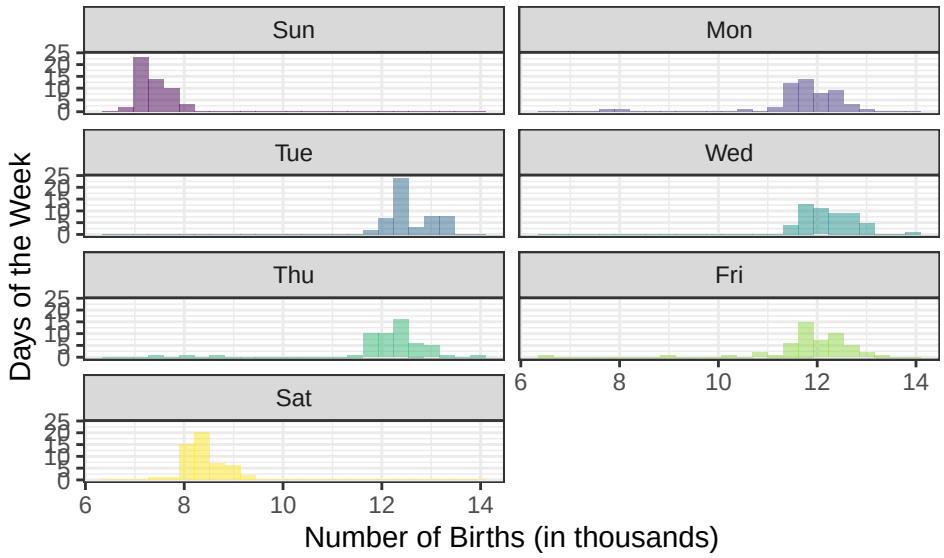
Layering

```
gf_violin(births~wday,fill=~wday,data=Births2015) %>%
  gf_sina(births~wday,data=Births2015, color="white",alpha=0.5) %>%
  gf_theme(theme_classic()) %>%
  gf_refine(coord_flip()) %>%
  gf_theme(legend.position="none") %>%
  gf_labs(y="Births",y="Weekdays", title="Number of Births per Day of the Week",subtitle="Births are mo
```

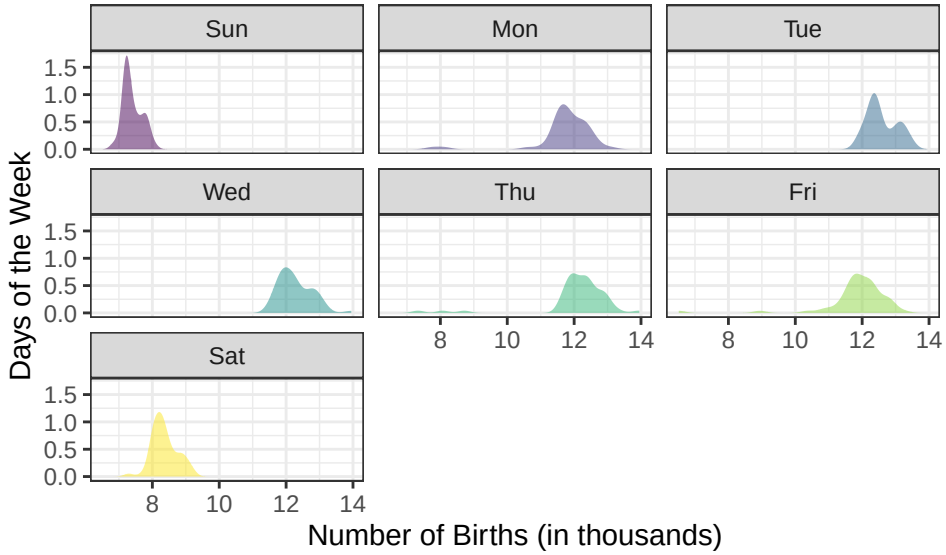


Categorical Graphs

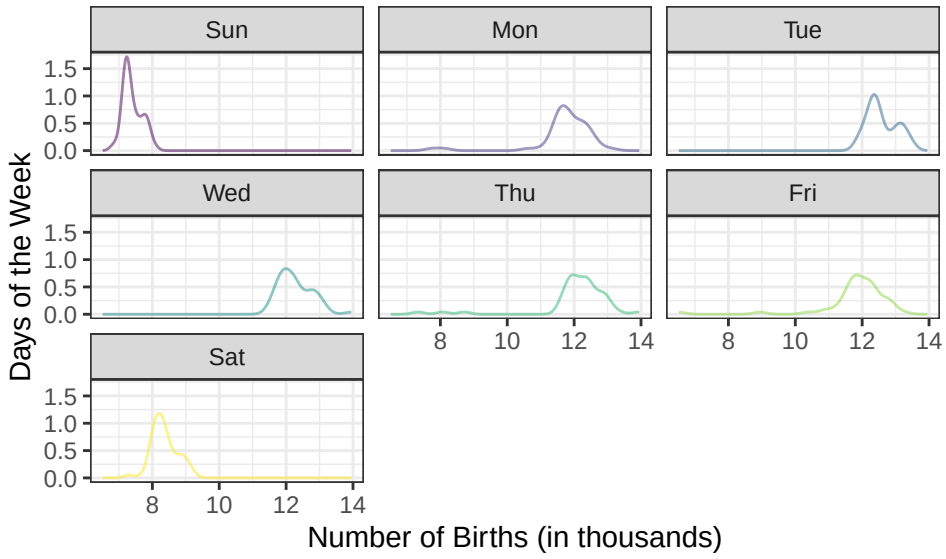
```
# gf_histogram(~births|wday, data=Births2015)
gf_histogram(~births/1000,data=Births2015, fill=~wday) %>%
  gf_facet_wrap(~wday,ncol=2) %>%
  gf_theme(legend.position = "none") %>%
  gf_labs(x="Number of Births (in thousands)",y="Days of the Week")
```



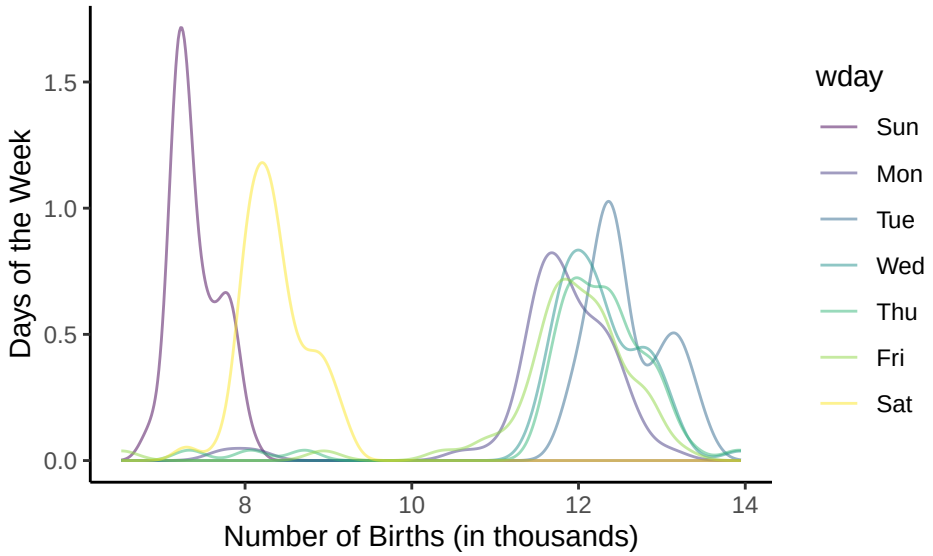

```
gf_density(~births/1000,data=Births2015, fill=~wday) %>%
  gf_facet_wrap(~wday) %>%
  gf_theme(legend.position = "none") %>%
  gf_labs(x="Number of Births (in thousands)",y="Days of the Week")
```




```
gf_dens(~births/1000,data=Births2015, color=~wday) %>%
  gf_facet_wrap(~wday) %>%
   gf_theme(legend.position = "none") %>%
  gf_labs(x="Number of Births (in thousands)",y="Days of the Week")
```

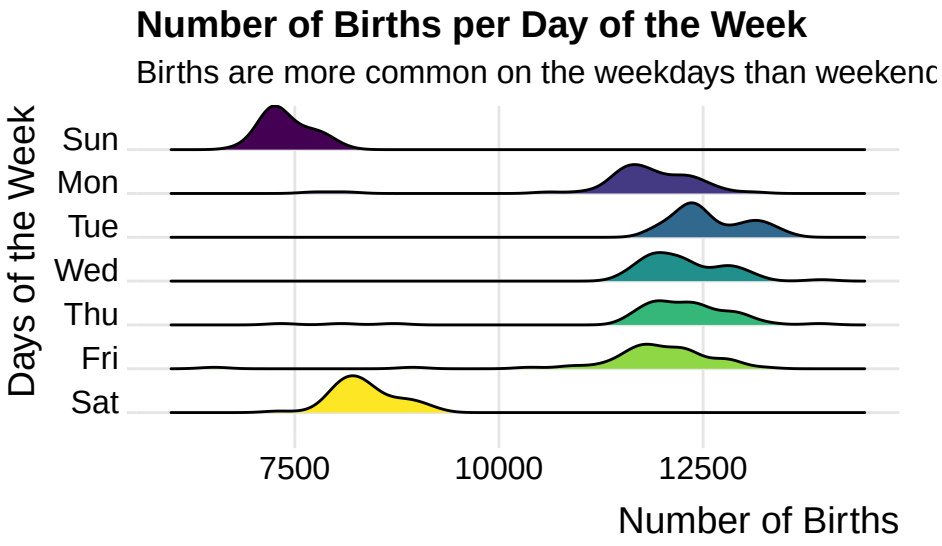



```
gf_dens(~births/1000,data=Births2015, color=~wday) %>%
  gf_labs(x="Number of Births (in thousands)",y="Days of the Week") %>%
  gf_theme(theme_classic())
```




```
gf_density_ridges(wday~births,data=Births2015,fill=~wday) %>%
  gf_labs(x="Number of Births",y="Days of the Week", title="Number of Births per Day of the Week",subti
  gf_theme(theme_ridges()) %>%
  gf_theme(legend.position="none") %>%
  gf_refine(scale_y_discrete(limits=rev))
```

```
## Picking joint bandwidth of 177
```


Number of Births per Day of the Week
Births are more common on the weekdays than weekend
Days of the Week
Sun
Mon
Tue
Wed
Thu
Fri
Sat
7500
10000
12500
Number of Births