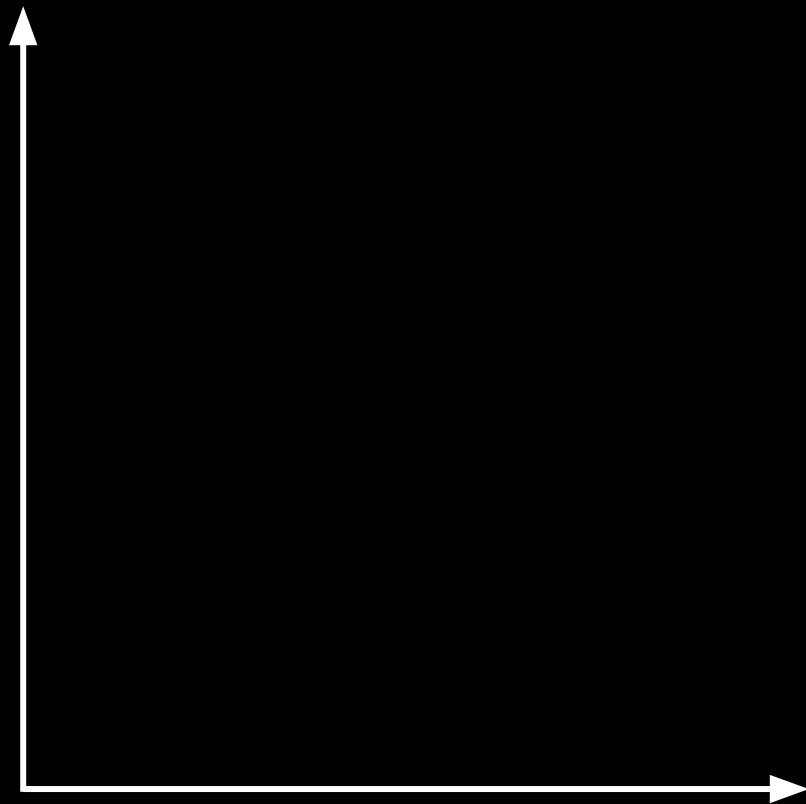
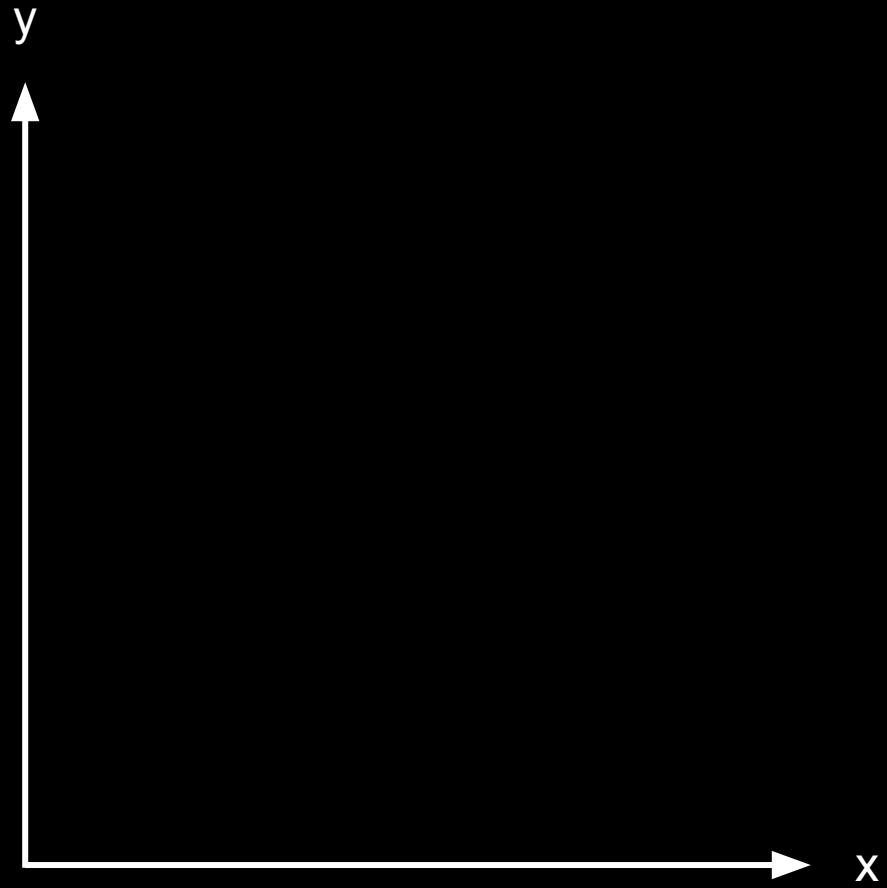


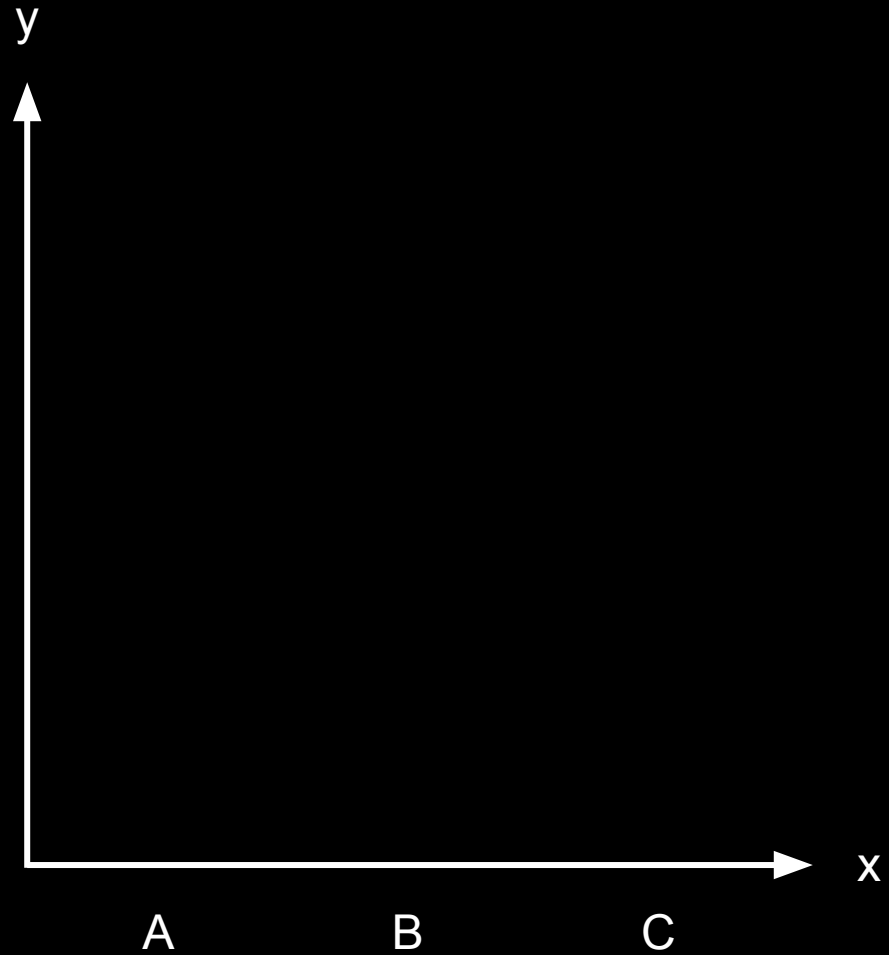
VISUALIZE DATA

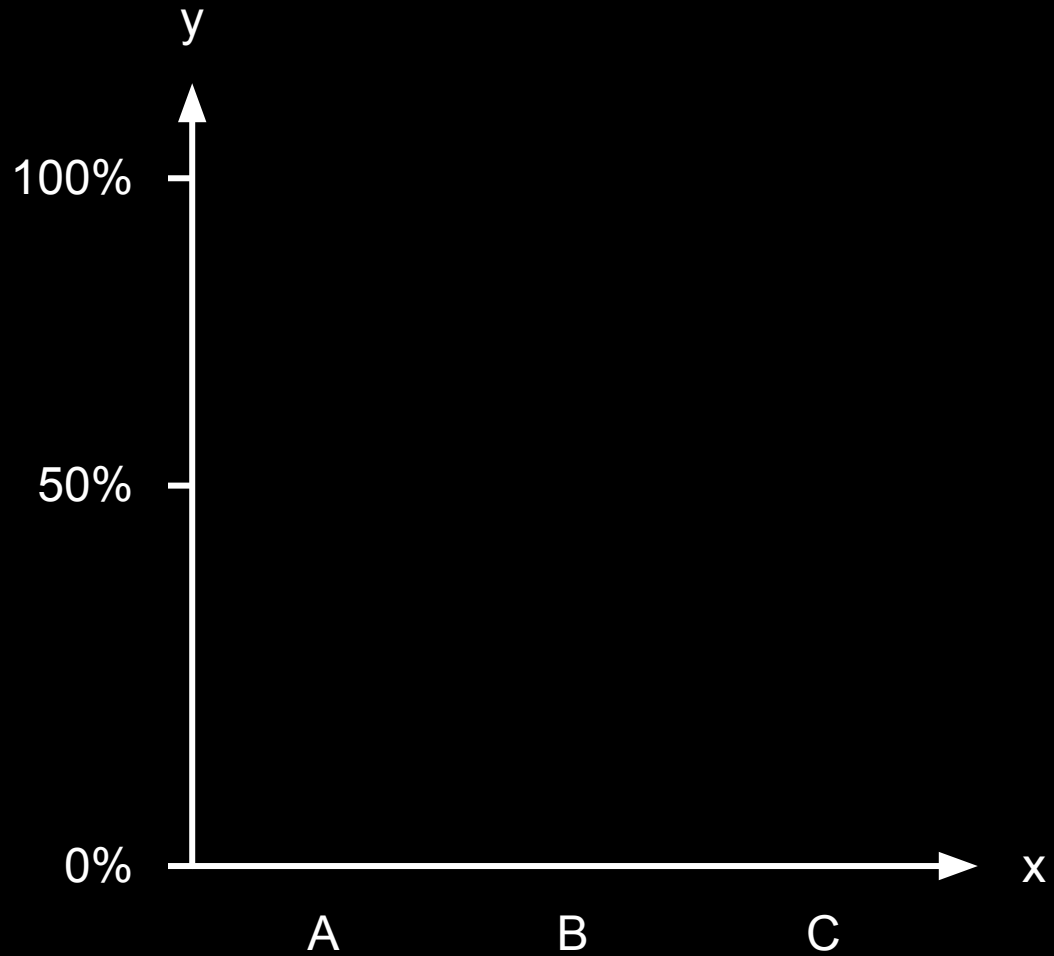
data

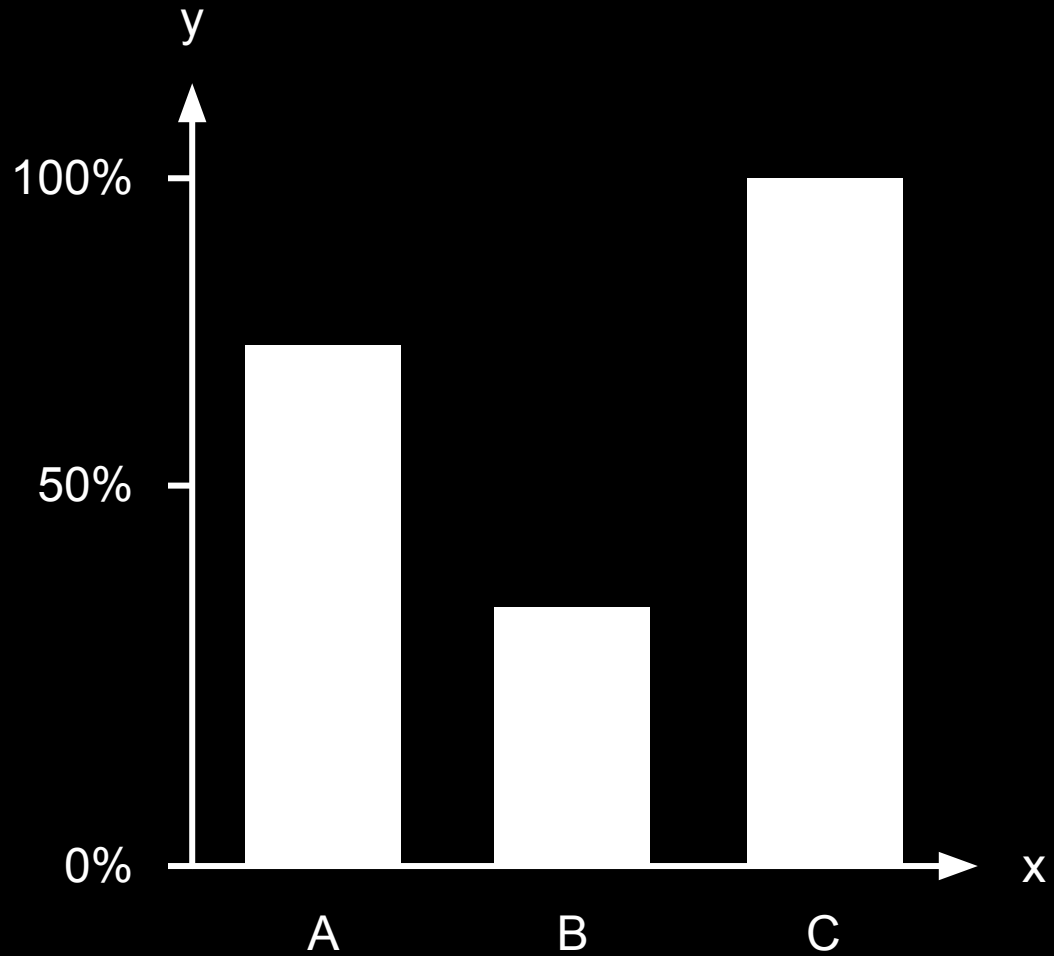
category	pct
A	75
B	33
C	100



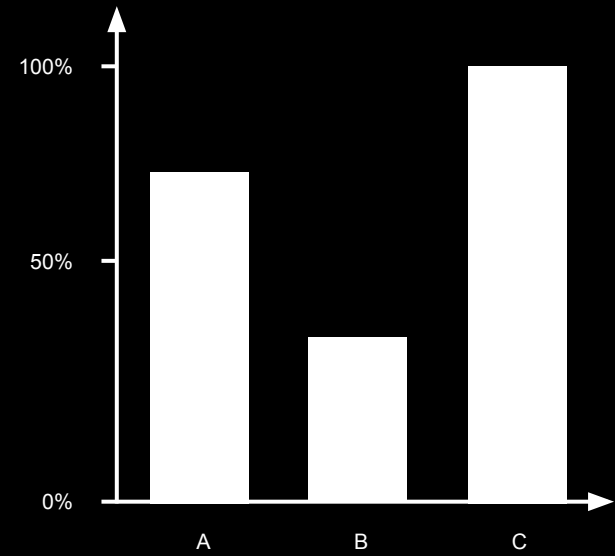








category	pct
A	75
B	33
C	100



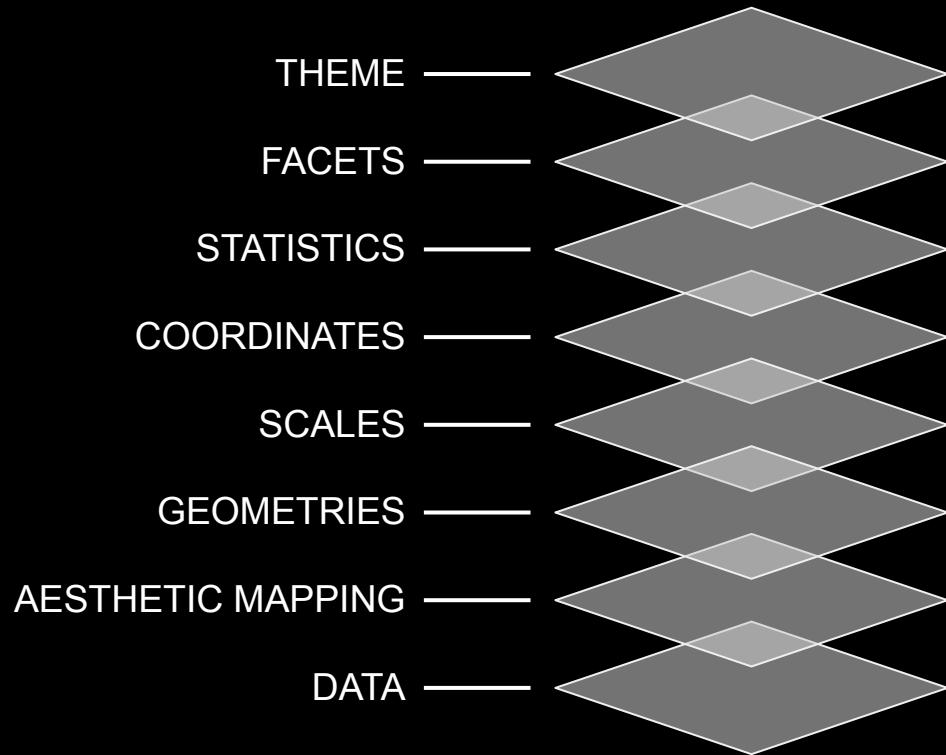
{{ ggplot2 }}

why visualize?

{{ ggplot2 }}

grammar of graphics

any
data
visualization



has useful defaults

mandatory



THEME

FACETS

STATISTICS

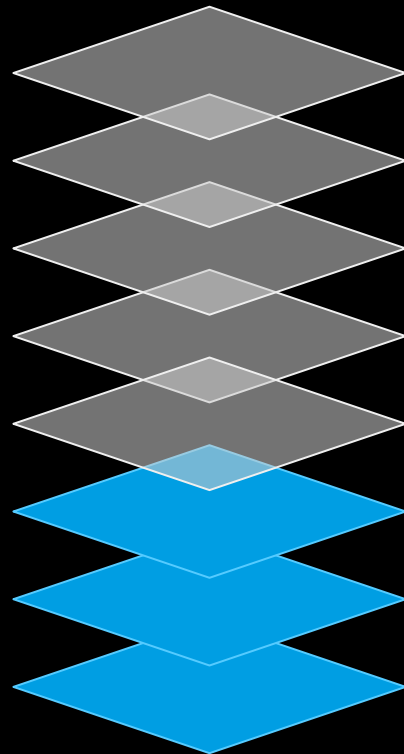
COORDINATES

SCALES

GEOMETRIES

AESTHETIC MAPPING

DATA



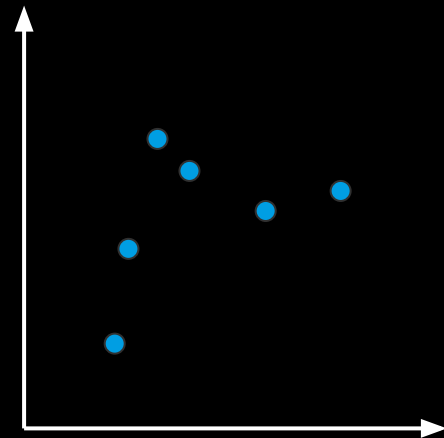
`ggplot()`

```
ggplot() +  
  aes()
```

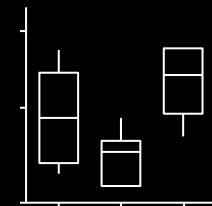
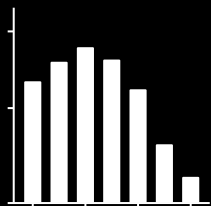
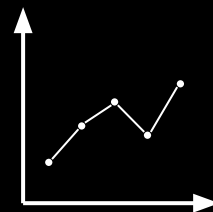
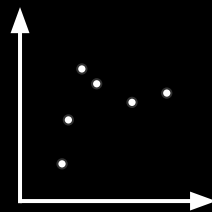
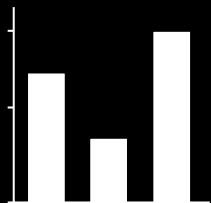
```
ggplot() +  
  aes() +  
  geom_point()
```

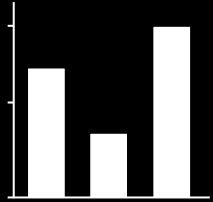


```
ggplot() +  
  aes() +  
  geom_point()
```

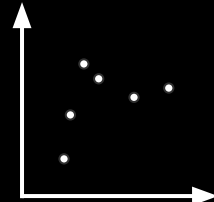


basic plots

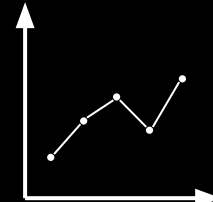




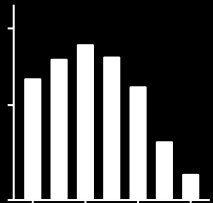
bar chart



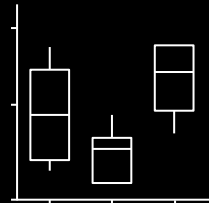
scatter plot



line chart

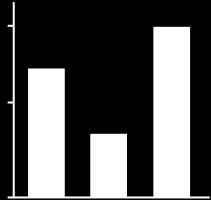


histogram



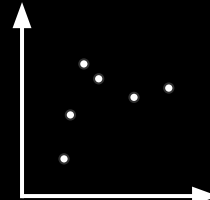
box plot

amounts
proportions
distributions (discrete)



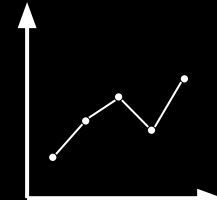
bar chart

associations
patterns



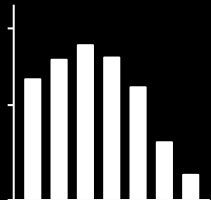
scatter plot

trends
developments



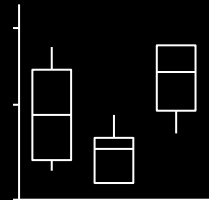
line chart

distributions (continuous)



histogram

compare distributions (continuous)



box plot