Computation and Visualization for Analytics

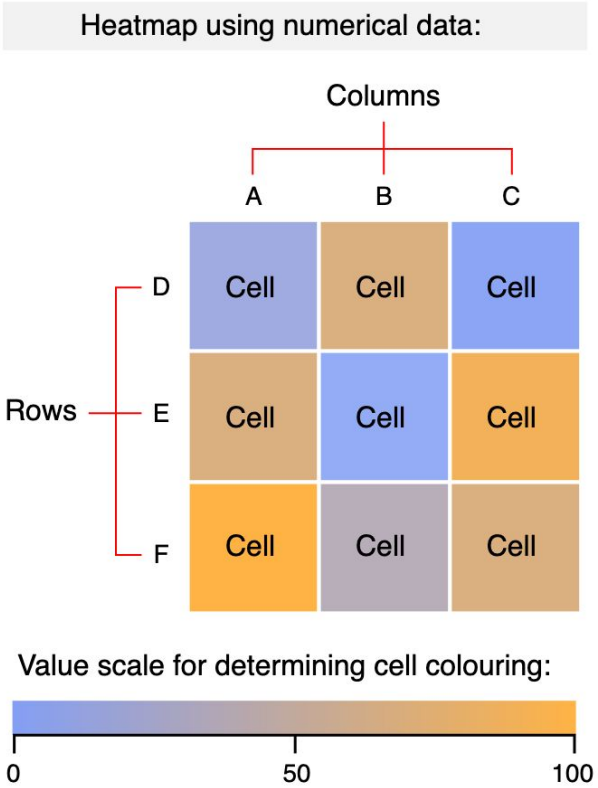
Spring 2021

Week 5.2

Visualizing Amounts

- Comparison
- Composition

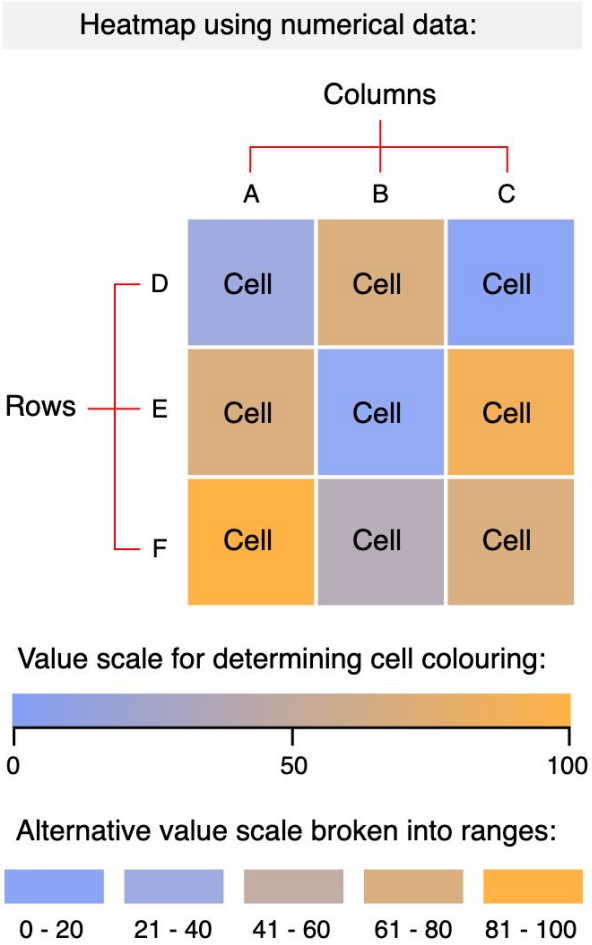
HeatMap



Use

- Comparison

HeatMap

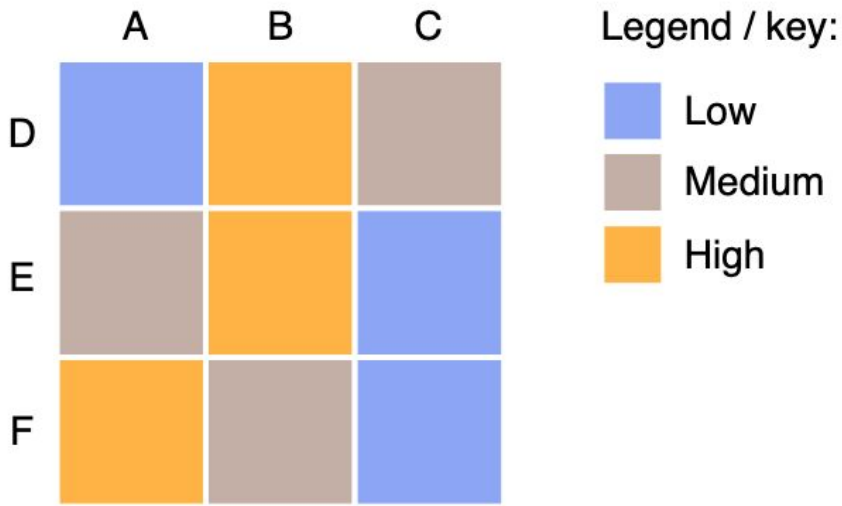


Use

- Comparison

HeatMap

Heatmap using categorical data:

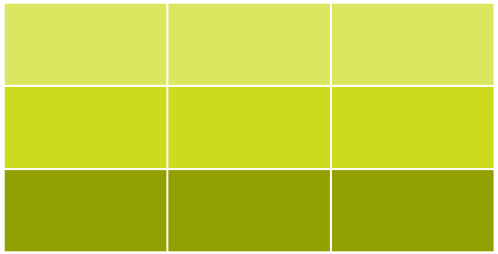


Use

- Comparison

HeatMap

Categorical variable



Categorical variable

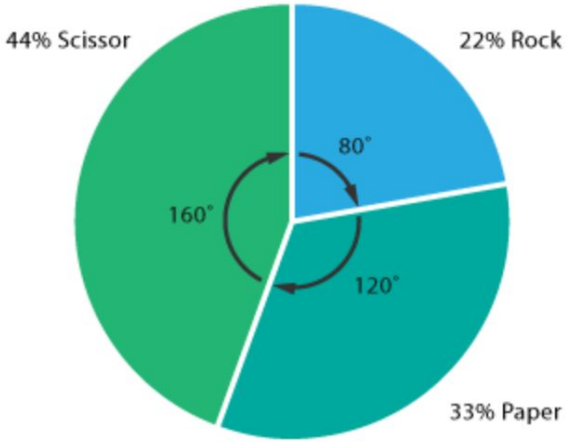
Use

- Comparison

Channel Optimization (preattentive memory)

- Sort

Pie Chart



Data			
Rock	Paper	Scissor	TOTAL
2	3	4	9
To calculate percentages			
2/9=22%	3/9=33%	4/9=44%	100%
Degrees for each "pie slice"			
(2/9) x 360 = 80°	(3/9) x 360 = 120°	(4/9) x 360 = 160°	360°

Use

- Composition
- Part-to-whole

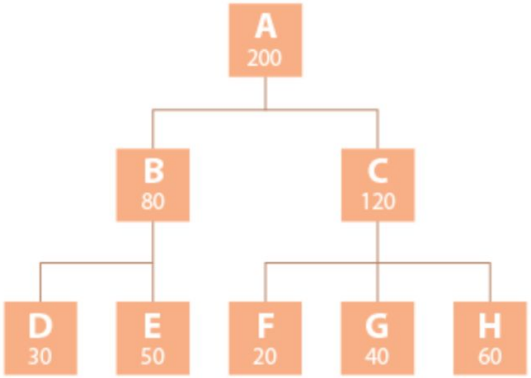
Pie Rules

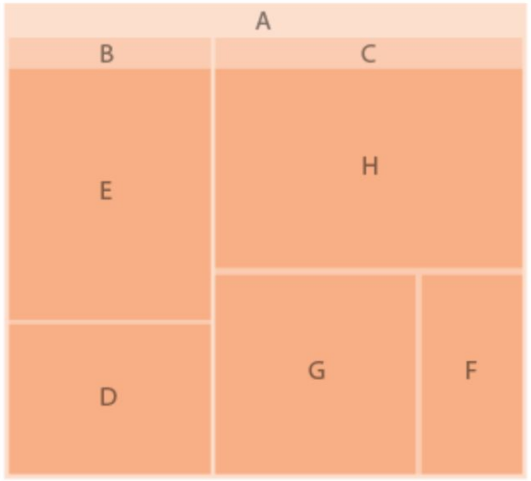
- Avoid using variables with too many factors
- Avoid channel (*saturation*) to show differences
- Avoid using multiple pie charts for comparison

Channel Optimization for Pie Charts (preattentive memory)

- Text annotation (labels)
- Calculate percentages
- Scale differences must be addressed

Tree Map





Use

- Composition with hierarchy
- Part-to-whole

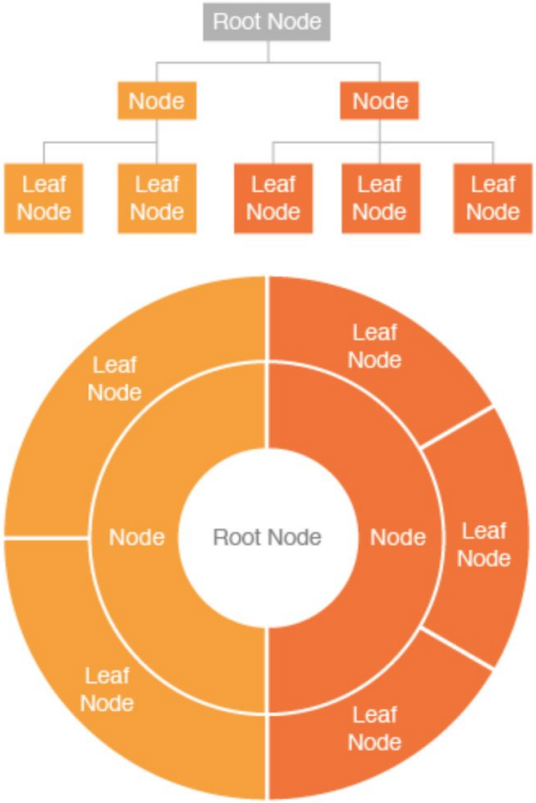
Tree Map Rules

- Avoid using variables with too many factors
- Avoid channel (*saturation*) to show differences

Channel Optimization for Tree Maps (preattentive memory)

- Scale differences must be addressed

Sunburst Diagram



Use

- Composition with hierarchy
- Part-to-whole

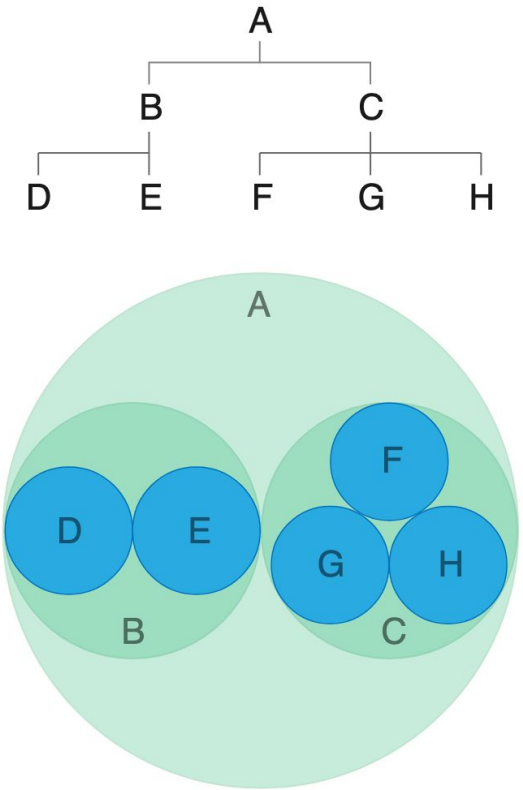
Sunburst Rules

- Avoid using variables with too many factors

Channel Optimization for Sunburst Diagram (preattentive memory)

- Scale differences must be addressed

Packed Circle



Use

- Composition with hierarchy
- Part-to-whole

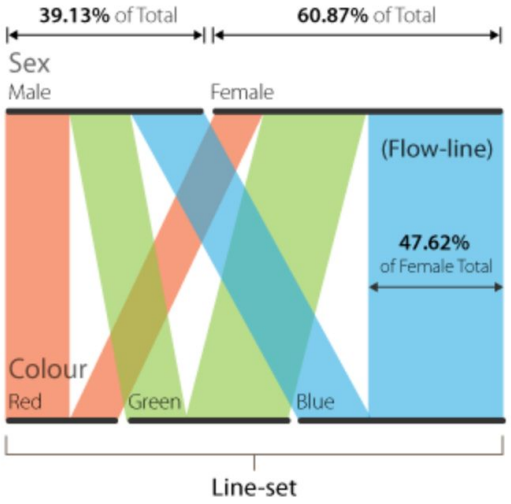
Packed Circle Rules

- Avoid using variables with too many factors

Channel Optimization for Packed Circles (preattentive memory)

- Scale differences must be addressed

Alluvial chart / Parallel set / Flow map / Sankey diagram



Sex	Colour	Count	% of Sex TOTAL
Male	Red	35	32.41
	Green	33	30.56
	Blue	40	37.04
Female	Red	28	16.67
	Green	60	35.71
	Blue	80	47.62

Use

- Composition with hierarchy
- Part-to-whole

Packed Circle Rules

- Avoid using variables with too many factors