Idiom	**Scatterplots**
What: Data	Table: two quantitative value attributes.
How: Encode	Express values with horizontal and vertical spatial position and point marks.
Why: Task	Find trends, outliers, distribution, correlation; locate clusters.
Scale	Items: hundreds.

Idiom	**Bar Charts**
What: Data	Table: one quantitative value attribute, one categorical key attribute.
How: Encode	Line marks, express value attribute with aligned vertical position, separate key attribute with horizontal position.
Why: Task	Lookup and compare values.
Scale	Key attribute: dozens to hundreds of levels.

Idiom Tables from Ch 7 "Arrange Tables" from *Visualization Analysis & Design*, by Tamara Munzner

Idiom	**Stacked Bar Charts**
What: Data	Multidimensional table: one quantitative value attribute, two categorical key attributes.
How: Encode	Bar glyph with length-coded subcomponents of value attribute for each category of secondary key attribute. Separate bars by category of primary key attribute.
Why: Task	Part-to-whole relationship, lookup values, find trends.
Scale	Key attribute (main axis): dozens to hundreds of levels. Key attribute (stacked glyph axis): several to one dozen

Idiom	**Streamgraphs**
What: Data	Multidimensional table: one quantitative value attribute (counts), one ordered key attribute (time), one categorical key attribute (artist).
What: Derived	One quantitative attribute (for layer ordering).
How: Encode	Use derived geometry showing artist layers across time, layer height encodes counts.
Scale	Key attributes (time, main axis): hundreds of time points. Key attributes (artists, short axis): dozens to hundreds

Idiom	**Dot Charts**
What: Data	Table: one quantitative value attribute, one ordered key attribute.
How: Encode	Express value attribute with aligned vertical position and point marks. Separate/order into horizontal regions by key attribute.

Idiom	**Line Charts**
What: Data	Table: one quantitative value attribute, one ordered key attribute.
How: Encode	Dot chart with connection marks between dots.
Why	Show trend.
Scale	Key attribute: hundreds of levels.

Idiom	**Heatmaps**
What: Data	Table: two categorical key attributes (genes, conditions), one quantitative value attribute (activity level for gene in condition).
How: Encode	2D matrix alignment of area marks, diverging color-map.
Why: Task	Find clusters, outliers; summarize.
Scale	Items: one million. Categorical attribute levels: hundreds. Quantitative attribute levels: 3–11.

Idiom	**Cluster Heatmaps**
What: Derived	Two cluster hierarchies for table rows and columns.
How: Encode	Heatmap: 2D matrix alignment, ordered by both cluster hierarchies. Dendrogram: connection line marks for parent–child relationships in tree.

Idiom	**Scatterplot Matrix (SPLOM)**
What: Data	Table.
What: Derived	Ordered key attribute: list of original attributes.
How: Encode	Scatterplots in 2D matrix alignment.
Why: Task	Find correlation, trends, outliers.
Scale	Attributes: one dozen. Items: dozens to hundreds.

Idiom	**Parallel Coordinates**
What: Data	Table: many value attributes.
How: Encode	Parallel layout: horizontal spatial position used to separate axes, vertical spatial position used to express value along each aligned axis with connection line marks as segments between them.
Why: Tasks	Find trends, outliers, extremes, correlation.
Scale	Attributes: dozens along secondary axis. Items: hundreds.

Idiom	**Radial Bar Charts**
What: Data	Table: one quantitative attribute, one categorical attribute.
How: Encode	Length coding of line marks; radial layout.

Idiom	**Pie Charts**
What: Data	Table: one quantitative attribute, one categorical attribute.
Why: Task	Part–whole relationship.
How: Encode	Area marks (wedges) with angle channel; radial layout.
Scale	One dozen categories.

Idiom	**Polar Area Charts**
What: Data	Table: one quantitative attribute, one categorical attribute.
Why: Task	Part–whole relationship.
How: Encode	Area marks (wedges) with length channel; radial layout.
Scale	One dozen categories.

Idiom	**Normalized Stacked Bar Charts**
What: Data	Multidimensional table: one quantitative value attribute, two categorical key attributes.
What: Derived	One quantitative value attribute (normalized version of original attribute).
Why: Task	Part–whole relationship.
How: Encode	Line marks with length channel; rectilinear layout.
Scale	One dozen categories for stacked attribute. Several dozen categories for axis attribute.

Idiom	**Dense Software Overviews**
What: Data	Text with numbered lines (source code, test results log).
What: Derived	Two quantitative attributes (test execution results).
How: Encode	Dense layout. Spatial position and line length from text ordering. Color channels of hue and brightness.
Why: Task	Locate faults, summarize results and coverage.
Scale	Lines of text: ten thousand.
(How: Facet)	Same encoding, same dataset, global overview with detail showing subset of data, different resolutions, linking with color.
(How: Reduce)	Detail: filter to local neighborhood of selection