Geometry layer functions

From https://rpubs.com/hadley/ggplot2-layers

- Graphical primitives:
  - `geom_blank()`: display nothing. Most useful for adjusting axes limits using data.
  - `geom_point()`: points.
  - `geom_path()`: paths.
  - `geom_ribbon()`: ribbons, a path with vertical thickness.
  - `geom_segment()`: a line segment, specified by start and end position.
  - `geom_rect()`: rectangles.
  - `geom_polyon()`: filled polygons.
  - `geom_text()`: text.
- One variable:
  - Discrete:
    - `geom_bar()`: display distribution of discrete variable.
  - Continuous
    - `geom_histogram()`: bin and count continuous variable, display with bars.
    - `geom_density()`: smoothed density estimate
    - `geom_dotplot()`: stack individual points into a dot plot.
    - `geom_freqpoly()`: bin and count continuous variable, display with lines.
- Two variables:
  - Both continuous:
    - `geom_point()`: scatterplot.
    - `geom_quantile()`: smoothed quantile regression.
    - `geom_rug()`: marginal rug plots.
    - `geom_smooth()`: smoothed line of best fit.
    - `geom_text()`: text labels.
  - Show distribution:
    - `geom_bin2d()`: bin into rectangles and count.
    - `geom_density2d()`: smoothed 2d density estimate.
    - `geom_hex()`: bin into hexagons and count.
  - At least one discrete:
    - `geom_count()`: count number of point at distinct locations
    - `geom_jitter()`: randomly jitter overlapping points.
  - One continuous, one discrete:
    - `geom_bar(stat = "identity")`: a bar chart of precomputed summaries
    - `geom_boxplot()`: boxplots.
    - `geom_dotplot()`: carefully adjust location of overlapping points.
    - `geom_violin()`: show density of values in each group.
  - One time, one continuous
    - `geom_area()`: area plot.
    - `geom_line()`: line plot.
    - `geom_step()`: step plot.
  - Display error:
    - `geom_crossbar()`: vertical bar with center.
    - `geom_errorbar()`: error bars.
    - `geom_linerange()`: vertical line.

        - `geom_pointrange()`: vertical line with center.
    - Spatial
        - `geom_map()`: fast version of `geom_polygon()` for map data.
- Three variables:
    - `geom_contour()`: contours.
    - `geom_tile()`: tile the plane with rectangles.
    - `geom_raster()`: fast version of `geom_tile()` for equal sized tiles.

Each geom has a set of aesthetics that it understands, some of which must be provided. For example, the point geoms requires x and y position, and understands colour, size and shape aesthetics. A bar requires height (`ymax`), and understands width, border colour and fill colour. Each geom lists its aesthetics in the docuementation.

Some geoms differ primarily in the way that they are parameterised. For example, you can draw a square in three ways:

- By giving `geom_tile()` the location (`x` and `y`) and dimensions (`width` and `height`).
- By giving `geom_rect()` top (`ymax`), bottom (`ymin`), left (`xmin`) and right (`xmax`) positions.
- By giving `geom_polygon()` a four row data frame with the `x` and `y` positions of each corner.

Other related geoms are:

- `geom_segment()`, and `geom_line()`
- `geom_area()` and `geom_ribbon()`