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## d3 (core)

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### Selections

**d3.select** - select an element from the current doc.  
**d3.selectAll** - select multiple elements from the current doc.  
**selection.attr** - get/set attr vals.  
**selection.classed** - add/remove CSS classes.  
**selection.style** - get/set style properties.  
**selection.property** - get/set raw properties.  
**selection.text** - get/set text content.  
**selection.html** - get/set inner HTML content.  
**selection.append** - create and append new elements.  
**selection.insert** - create and insert new elements before existing elements.  
**selection.remove** - remove elements from the doc.  
**selection.data** - get/set data for a group of elements, while computing a relational join.  
**selection.enter** - returns placeholders for missing elements.  
**selection.exit** - returns elements that are no longer needed.  
**selection.datum** - get/set data for individual elements, without computing a join.  
**selection.filter** - filter a selection based on data.  
**selection.sort** - sort elements in the doc based on data.  
**selection.order** - reorders elements in the doc to match the selection.  
**selection.on** - add/remove event listeners for interaction.  
**selection.transition** - start a trans. on the selected elements.  
**selection.each** - call a fcn for each selected element.  
**selection.call** - call a fcn passing in the current selection.  
**selection.empty** - returns true if the selection is empty.  
**selection.node** - access the first node in a selection.  
**selection.select** - subselect a descendant element for each selected element.  
**selection.selectAll** - subselect multiple descendants for each selected element.  
**d3.selection** - augment the selection prototype, or test instance types.  
**d3.event** - access the current user event for interaction.  
**d3.mouse** - gets the mouse position relative to a specified container.  
**d3.touches** - gets the touch positions relative to a specified container.

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### Transitions

**d3.transition** - start an animated trans..  
**transition.delay** - specify per-element delay in ms.  
**transition.duration** - specify per-element duration in ms.  
**transition.ease** - specify trans. easing fcn.  
**transition.attr** - smoothly trans to the new attr val.  
**transition.attrTween** - smoothly trans b/w two attr vals.  
**transition.style** - smoothly trans to the new style property val.  
**transition.styleTween** - smoothly trans b/w two style property vals.  
**transition.text** - set the text content when the trans starts.  
**transition.tween** - specify a custom tween operator to run as part of the trans.

**transition.select** - start a trans on a descendant element for each selected element.  
**transition.selectAll** - start a trans on multiple descendants for each selected element.  
**transition.filter** - filter a trans based on data.  
**transition.transition** - when this trans ends, start another one on the same elements.  
**transition.remove** - remove sel. elements at the end of a trans.  
**transition.each** - add a listener for transition end events.  
**transition.call** - call a fcn passing in the current trans.  
**d3.ease** - customize trans timing.  
**ease** - a parametric easing fcn.  
**d3.timer** - start a custom animation timer.  
**d3.timer.flush** - immediately execute any zero-delay timers.  
**d3.interpolate** - interpolate two vals.  
**interpolate** - a parametric interpolation fcn.  
**d3.interpolateNumber** - interpolate two numbers.  
**d3.interpolateRound** - interpolate two integers.  
**d3.interpolateString** - interpolate two strings.  
**d3.interpolateRgb** - interpolate two RGB colors.  
**d3.interpolateHsl** - interpolate two HSL colors.  
**d3.interpolateLab** - interpolate two L\*a\*b\* colors.  
**d3.interpolateHcl** - interpolate two HCL colors.  
**d3.interpolateArray** - interpolate two arrays of vals.  
**d3.interpolateObject** - interpolate two arbitrary objects.  
**d3.interpolateTransform** - interpolate two 2D matrix trans.  
**d3.interpolate** - register a custom interpolator.

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### Working with Arrays

**d3.ascending** - compare two values for sorting.  
**d3.descending** - compare two values for sorting.  
**d3.min** - find the min value in an array.  
**d3.max** - find the max value in an array.  
**d3.extent** - find the min and max value in an array.  
**d3.sum** - compute the sum of an array.  
**d3.mean** - compute the arithmetic mean of an array.  
**d3.median** - compute the median of an array (the 0.5-quantile).  
**d3.quantile** - compute a quantile for a sorted array.  
**d3.bisect** - search for a value in a sorted array.  
**d3.bisectRight** - search for a value in a sorted array.  
**d3.bisectLeft** - search for a value in a sorted array.  
**d3.bisector** - bisect using an accessor.  
**d3.shuffle** - randomize the order of an array.  
**d3.permute** - reorder an array of elements according to an array of indexes.  
**d3.zip** - transpose a variable number of arrays.  
**d3.transpose** - transpose an array of arrays.  
**d3.keys** - list the keys of an assoc array.  
**d3.values** - list the values of an associated array.  
**d3.entries** - list the key-value entries of an assoc array.  
**d3.merge** - merge multiple arrays into one array.  
**d3.range** - generate a range of numeric vals.  
**d3.nest** - group array elements hierarchically.  
**nest.key** - add a level to the nest hierarchy.

**nest.sortKeys** - sort the current nest level by key.  
**nest.sortValues** - sort the leaf nest level by val.  
**nest.rollup** - specify a rollup fcn for leaf vals.  
**nest.map** - evaluate the nest operator, ret an assoc array.  
**nest.entries** - evaluate the nest operator, ret an array of key-values tuples.  
**d3.map** - a shim for ES6 maps, since objects are not hashes!  
**map.has** - returns true if the map contains the specified key.  
**map.get** - returns the value for the specified key.  
**map.set** - sets the value for the specified key.  
**map.remove** - removes the entry for specified key.  
**map.keys** - returns the maps array of keys.  
**map.values** - returns the maps array of vals.  
**map.entries** - returns the maps array of entries (key-values objects).  
**map.forEach** - calls the specified fcn for each entry in the map.  
**d3.set** - a shim for ES6 sets, since objects are not hashes!  
**set.has** - returns true if the set contains the specified val.  
**set.add** - adds the specified val.  
**set.remove** - removes the specified val.  
**set.values** - returns the sets array of vals.  
**set.forEach** - calls the specified fcn for each val in the set.

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### Math

**d3.random.normal** - generate a RV with a normal dist.  
**d3.random.logNormal** - generate a RV with a log-normal dist.  
**d3.random.irwinHall** - generate a RV with an IrwinHall dist.  
**d3.transform** - compute the std form of a 2D matrix trans.

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### String Formatting

**d3.format** - format a number as a string.  
**d3.formatPrefix** - returns the [SI prefix] for the specified val and precision.  
**d3.requote** - quote a string for use in a regular expression.  
**d3.round** - rounds a val to some digits after the decimal point.

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### Loading External Resources

**d3.xhr** - request a resource using XMLHttpRequest.  
**xhr.header** - set a request header.  
**xhr.mimeType** - set the Accept request header and override the response MIME type.  
**xhr.response** - set a response mapping fcn.  
**xhr.get** - issue a GET request.  
**xhr.post** - issue a POST request.  
**xhr.send** - issue a request with the specified method and data.  
**xhr.abort** - abort an outstanding request.  
**xhr.on** - add an event listener for "progress", "load" or "error" events.  
**d3.text** - request a text file.  
**d3.json** - request a JSON blob.  
**d3.html** - request an HTML doc fragment.  
**d3.xml** - request an XML doc fragment.  
**d3.csv** - request a comma-separated values (CSV) file.  
**d3.tsv** - request a tab-separated values (TSV) file.

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## CSV Formatting (d3.csv)

**d3.csv** - request a comma-separated values (CSV) file.  
**d3.csv.parse** - parse a CSV string into objects using the header row.  
**d3.csv.parseRows** - parse a CSV string into tuples, ignoring the header row.  
**d3.csv.format** - format an array of objects into a CSV string.  
**d3.csv.formatRows** - format an array of tuples into a CSV string.  
**d3.tsv** - request a tab-separated values (TSV) file.  
**d3.tsv.parse** - parse a TSV string into objects using the header row.  
**d3.tsv.parseRows** - parse a TSV string into tuples, ignoring the header row.  
**d3.tsv.format** - format an array of objects into a TSV string.  
**d3.tsv.formatRows** - format an array of tuples into a TSV string.

## Colors

**d3.rgb** - specify a color in RGB space.  
**rgb.brighter** - increase RGB channels by some exp. factor.  
**rgb.darker** - decrease RGB channels by some exp. factor.  
**rgb.hsl** - convert from RGB to HSL.  
**rgb.toString** - convert an RGB color to a string.  
**d3.hsl** - specify a color in HSL space.  
**hsl.brighter** - increase lightness by some exp. factor.  
**hsl.darker** - decrease lightness by some exp. factor.  
**hsl.rgb** - convert from HSL to RGB.  
**hsl.toString** - convert an HSL color to a string.  
**d3.lab** - specify a color in L\*a\*b\* space.  
**lab.brighter** - increase lightness by some exp. factor.  
**lab.darker** - decrease lightness by some exp. factor.  
**lab.rgb** - convert from L\*a\*b\* to RGB.  
**lab.toString** - convert a L\*a\*b\* color to a string.  
**d3.hcl** - specify a color in HCL space.  
**hcl.brighter** - increase lightness by some exp. factor.  
**hcl.darker** - decrease lightness by some exp. factor.  
**hcl.rgb** - convert from HCL to RGB.  
**hcl.toString** - convert an HCL color to a string.

## Namespaces

**d3.ns.prefix** - access/extend known XML namespaces.  
**d3.ns.qualify** - qualify a prefixed name, such as "xlink:href".

## Internals

**d3.functor** - create a fcn that returns a constant.  
**d3.rebind** - rebind an inherited getter/setter method to a subclass.  
**d3.dispatch** - create custom event dispatchers.  
**dispatch.on** - register an event listener.  
**dispatch** - dispatch an event to registered listeners.

## d3.scale (Scales)

### Quantitative

**d3.scale.linear** - construct a linear quantitative scale.  
**linear** - get the range val corresp to a given domain val.  
**linear.invert** - get the domain val corresp to a given range val.  
**linear.domain** - get/set the scale's input domain.  
**linear.range** - get/set the scale's output range.  
**linear.rangeRound** - set the scale's output range, and enable rounding.  
**linear.interpolate** - get/set the scale's output interpolator.  
**linear.clamp** - enable/disable clamping of the output range.  
**linear.nice** - extend the scale domain to nice round numbers.  
**linear.ticks** - get representative values from the input domain.  
**linear.tickFormat** - get a formatter for displaying tick vals.  
**linear.copy** - create a new scale from an existing scale.  
**d3.scale.sqrt** - construct a quantitative scale with a square root trans.  
**d3.scale.pow** - construct a quantitative scale with an exponential trans.  
**pow** - get the range val corresp to a given domain val.  
**pow.invert** - get the domain val corresp to a given range val.  
**pow.domain** - get/set the scale's input domain.  
**pow.range** - get/set the scale's output range.  
**pow.rangeRound** - set the scale's output range, and enable rounding.  
**pow.interpolate** - get/set the scale's output interpolator.  
**pow.clamp** - enable/disable clamping of the output range.  
**pow.nice** - extend the scale domain to nice round numbers.  
**pow.ticks** - get representative values from the input domain.  
**pow.tickFormat** - get a formatter for displaying tick vals.  
**pow.exponent** - get/set the exponent power.  
**pow.copy** - create a new scale from an existing scale.  
**d3.scale.log** - construct a quantitative scale with an logarithmic trans.  
**log** - get the range val corresp to a given domain val.  
**log.invert** - get the domain val corresp to a given range val.  
**log.domain** - get/set the scale's input domain.  
**log.range** - get/set the scale's output range.  
**log.rangeRound** - set the scale's output range, and enable rounding.  
**log.interpolate** - get/set the scale's output interpolator.  
**log.clamp** - enable/disable clamping of the output range.  
**log.nice** - extend the scale domain to nice powers of ten.  
**log.ticks** - get representative values from the input domain.  
**log.tickFormat** - get a formatter for displaying tick vals.  
**log.copy** - create a new scale from an existing scale.  
**d3.scale.quantize** - construct a linear quantitative scale with a discrete output range.  
**quantize** - get the range val corresp to a given domain val.  
**quantize.domain** - get/set the scale's input domain.  
**quantize.range** - get/set the scale's output range (discrete).  
**quantize.copy** - create a new scale from an existing scale.  
**d3.scale.threshold** - construct a threshold scale with a discrete output range.  
**threshold** - get the range val corresp to a given domain val.

**threshold.domain** - get/set the scale's input domain.  
**threshold.range** - get/set the scale's output range (discrete).  
**threshold.copy** - create a new scale from an existing scale.  
**d3.scale.quantile** - construct a quantitative scale mapping to quantiles.  
**quantile** - get the range val corresp to a given domain val.  
**quantile.domain** - get/set the scale's input domain (discrete).  
**quantile.range** - get/set the scale's output range (discrete).  
**quantile.quantiles** - get the scale's quantile bin thresholds.  
**quantile.copy** - create a new scale from an existing scale.  
**d3.scale.identity** - construct a linear identity scale.  
**identity** - the identity fcn.  
**identity.invert** - equivalent to identity; the identity fcn.  
**identity.domain** - get/set the scale's domain and range.  
**identity.range** - equivalent to identity.domain.  
**identity.ticks** - get representative values from the domain.  
**identity.tickFormat** - get a formatter for displaying tick vals.  
**identity.copy** - create a new scale from an existing scale.

### Ordinal

**d3.scale.ordinal** - construct an ordinal scale.  
**ordinal** - get the range val corresp to a given domain val.  
**ordinal.domain** - get/set the scale's input domain.  
**ordinal.range** - get/set the scale's output range.  
**ordinal.rangePoints** - divide a continuous output range for discrete points.  
**ordinal.rangeBands** - divide a continuous output range for discrete bands.  
**ordinal.rangeRoundBands** - divide a continuous output range for discrete bands.  
**ordinal.rangeBand** - get the discrete range band width.  
**ordinal.rangeExtent** - get the min and max values of the output range.  
**ordinal.copy** - create a new scale from an existing scale.  
**d3.scale.category10** - constr an ord scale w/ 10 categ cols.  
**d3.scale.category20** - constr an ord scale w/ 20 categ cols.  
**d3.scale.category20b** - constr an ord scale w/ 20 categ cols.  
**d3.scale.category20c** - constr an ord scale w/ 20 categ cols.

# d3.svg (SVG)

## Shapes

**d3.svg.line** - create a new line generator.  
**line** - generate a piecewise linear curve, as in a line chart.  
**line.x** - get/set the x-coord accessor.  
**line.y** - get/set the y-coord accessor.  
**line.interpolate** - get/set the interpolation mode.  
**line.tension** - get/set the cardinal spline tension.  
**line.defined** - control whether the line is def at a given point.  
**d3.svg.line.radial** - create a new radial line generator.  
**line** - generate a piecewise linear curve, as in a polar line chart.  
**line.radius** - get/set the rad accessor.  
**line.angle** - get/set the angle accessor.  
**line.defined** - control whether the line is def at a given point.  
**d3.svg.area** - create a new area generator.  
**area** - generate a piecewise linear area, as in an area chart.  
**area.x** - get/set the x-coord accessors.  
**area.x0** - get/set the x0-coord (baseline) accessor.  
**area.x1** - get/set the x1-coord (topline) accessor.  
**area.y** - get/set the y-coord accessors.  
**area.y0** - get/set the y0-coord (baseline) accessor.  
**area.y1** - get/set the y1-coord (topline) accessor.  
**area.interpolate** - get/set the interpolation mode.  
**area.tension** - get/set the cardinal spline tension.  
**area.defined** - control whether the area is def at a given point.  
**d3.svg.area.radial** - create a new area generator.  
**area** - generate a piecewise linear area, as in a polar area chart.  
**area.radius** - get/set the rad accessors.  
**area.innerRadius** - get/set the inner rad (baseline) accessor.  
**area.outerRadius** - get/set the outer rad (topline) accessor.  
**area.angle** - get/set the angle accessors.  
**area.startAngle** - get/set the angle (baseline) accessor.  
**area.endAngle** - get/set the angle (topline) accessor.  
**area.defined** - control whether the area is def at a given point.  
**d3.svg.arc** - create a new arc generator.  
**arc** - generate a solid arc, as in a pie/donut chart.  
**arc.innerRadius** - get/set the inner rad accessor.  
**arc.outerRadius** - get/set the outer rad accessor.  
**arc.startAngle** - get/set the start angle accessor.  
**arc.endAngle** - get/set the end angle accessor.  
**arc.centroid** - compute the arc centroid.  
**d3.svg.symbol** - create a new symbol generator.  
**symbol** - generate categ symbols, as in a scatterplot.  
**symbol.type** - get/set the symbol type accessor.  
**symbol.size** - get/set the symbol size (in square px) accessor.  
**d3.svg.symbolTypes** - the array of supported symbol types.  
**d3.svg.chord** - create a new chord generator.  
**chord** - generate a quadratic Bzier connecting two arcs, as in a chord diagram.  
**chord.radius** - get/set the arc rad accessor.  
**chord.startAngle** - get/set the arc start angle accessor.  
**chord.endAngle** - get/set the arc end angle accessor.  
**chord.source** - get/set the source arc accessor.  
**chord.target** - get/set the target arc accessor.  
**d3.svg.diagonal** - create a new diagonal generator.

**diagonal** - generate a two-dim Bzier connector, as in a node-link diagram.  
**diagonal.source** - get/set the source point accessor.  
**diagonal.target** - get/set the target point accessor.  
**diagonal.projection** - get/set an optional point transform.  
**d3.svg.diagonal.radial** - create a new diagonal generator.  
**diagonal** - generate a two-dim Bzier connector, as in a node-link diagram.

## Axes

**d3.svg.axis** - create a new axis generator.  
**axis** - creates/updates an axis for the given sel. or trans.  
**axis.scale** - get/set the axis scale.  
**axis.orient** - get/set the axis orientation.  
**axis.ticks** - control how ticks are generated for the axis.  
**axis.tickValues** - specify tick values explicitly.  
**axis.tickSubdivide** - optionally subdivide ticks uniformly.  
**axis.tickSize** - specify the size of major, minor and end ticks.  
**axis.tickPadding** - specify padding b/w ticks and tick labels.  
**axis.tickFormat** - override the tick formatting for labels.

## Controls

**d3.svg.brush** - click and drag to select one- or two-dim regions.  
**brush** - creates or updates a brush for the given sel. or trans.  
**brush.x** - get/set the brushes x-scale.  
**brush.y** - get/set the brushes y-scale.  
**brush.extent** - get/set the brushes extent.  
**brush.clear** - reset the brush extent.  
**brush.empty** - returns true if the brush extent is empty.  
**brush.on** - respond to events when the brush is moved.

# d3.time (Time)

## Time Formatting

**d3.time.format** - create a new local time formatter for a given specifier.  
**format** - format a date into a string.  
**format.parse** - parse a string into a date.  
**d3.time.format.utc** - create a new UTC time formatter for a given specifier.  
**d3.time.format.iso** - the ISO 8601 UTC time formatter.

## Time Scales

**d3.time.scale** - construct a linear time scale.  
**scale** - get the range val corresp to a given domain val.  
**scale.invert** - get the domain val corresp to a given range val.  
**scale.domain** - get/set the scale's input domain.  
**scale.range** - get/set the scale's output range.  
**scale.rangeRound** - set the scale's output range, and enable rounding.  
**scale.interpolate** - get/set the scale's output interpolator.  
**scale.clamp** - enable/disable clamping of the output range.  
**scale.ticks** - get representative values from the input domain.  
**scale.tickFormat** - get a formatter for displaying tick vals.  
**scale.copy** - create a new scale from an existing scale.

## Time Intervals

**d3.time.interval** - a time interval in local time.  
**interval** - alias for interval.floor.  
**interval.range** - returns dates within the specified range.  
**interval.floor** - rounds down to the nearest interval.  
**interval.round** - rounds up/down to the nearest interval.  
**interval.ceil** - rounds up to the nearest interval.  
**interval.offset** - returns a date offset by some interval.  
**interval.utc** - returns the UTC-equivalent time interval.  
**d3.time.day** - every day (12:00 AM).  
**d3.time.days** - alias for day.range.  
**d3.time.dayOfYear** - computes the day num.  
**d3.time.hour** - every hour (e.g., 1:00 AM).  
**d3.time.hours** - alias for hour.range.  
**d3.time.minute** - every minute (e.g., 1:02 AM).  
**d3.time.minutes** - alias for minute.range.  
**d3.time.month** - every month (e.g., February 1, 12:00 AM).  
**d3.time.months** - alias for month.range.  
**d3.time.second** - every second (e.g., 1:02:03 AM).  
**d3.time.seconds** - alias for second.range.  
**d3.time.sunday** - every Sunday.  
**d3.time.sundays** - alias for sunday.range.  
**d3.time.sundayOfYear** - computes the sun-based wk num.  
**d3.time.monday** - every Monday.  
**d3.time.mondays** - alias for monday.range.  
**d3.time.mondayOfYear** - computes the mon-based wk num.  
**d3.time.tuesday** - every Tuesday.  
**d3.time.tuesdays** - alias for tuesday.range.  
**d3.time.tuesdayOfYear** - computes the tues-based wk num.  
**d3.time.wednesday** - every Wednesday.  
**d3.time.wednesdays** - alias for wednesday.range.  
**d3.time.wednesdayOfYear** - computes the wed-based wk num.  
**d3.time.thursday** - every Thursday.  
**d3.time.thursdays** - alias for thursday.range.  
**d3.time.thursdayOfYear** - computes the thurs-based wk num.  
**d3.time.friday** - every Friday.  
**d3.time.fridays** - alias for friday.range.  
**d3.time.fridayOfYear** - computes the fri-based wk num.  
**d3.time.saturday** - every Saturday.  
**d3.time.saturdays** - alias for saturday.range.  
**d3.time.saturdayOfYear** - computes the sat-based wk num.  
**d3.time.week** - alias for sunday.  
**d3.time.weeks** - alias for sunday.range.  
**d3.time.weekOfYear** - alias for sundayOfYear.  
**d3.time.year** - every year (e.g., January 1, 12:00 AM).  
**d3.time.years** - alias for year.range.

# d3.layout (Layouts)

## Bundle

**d3.layout.bundle** - construct a new default bundle layout.  
**bundle** - apply Holten's hierarchical bundling algorithm to edges.

## Chord

**d3.layout.chord** - produce a chord diagram from a matrix of relationships.  
**chord.matrix** - get/set the matrix data backing the layout.  
**chord.padding** - get/set the angular padding b/w chord segments.  
**chord.sortGroups** - get/set the comparator fcn for groups.  
**chord.sortSubgroups** - get/set the comparator fcn for subgroups.  
**chord.sortChords** - get/set the comparator fcn for chords (z-order).  
**chord.chords** - retrieve the computed chord angles.  
**chord.groups** - retrieve the computed group angles.

## Cluster

**d3.layout.cluster** - cluster entities into a dendrogram.  
**cluster.sort** - get/set the comparator fcn for sibling nodes.  
**cluster.children** - get/set the accessor fcn for child nodes.  
**cluster.nodes** - compute the cluster layout and return the array of nodes.  
**cluster.links** - compute the parent-child links b/w tree nodes.  
**cluster.separation** - get/set the spacing fcn b/w neighboring nodes.  
**cluster.size** - get/set the layout size in x and y.

## Force

**d3.layout.force** - position linked nodes using physical sim.  
**force.on** - listen to updates in the computed layout positions.  
**force.nodes** - get/set the array of nodes to layout.  
**force.links** - get/set the array of links b/w nodes.  
**force.size** - get/set the layout size in x and y.  
**force.linkDistance** - get/set the link distance.  
**force.linkStrength** - get/set the link strength.  
**force.friction** - get/set the friction coefficient.  
**force.charge** - get/set the charge strength.  
**force.gravity** - get/set the gravity strength.  
**force.theta** - get/set the accuracy of the charge interaction.  
**force.start** - start/restart the sim when the nodes change.  
**force.resume** - reheat the cooling parameter and restart sim.  
**force.stop** - immediately terminate the sim.  
**force.alpha** - get/set the layout's cooling parameter.  
**force.tick** - run the layout sim one step.  
**force.drag** - bind a behavior to nodes to allow interactive dragging.

## Hierarchy

**d3.layout.hierarchy** - derive a custom hierarchical layout implementation.  
**hierarchy.sort** - get/set the comparator fcn for sibling nodes.  
**hierarchy.children** - get/set the accessor fcn for child nodes.  
**hierarchy.nodes** - compute the layout and return the array of nodes.  
**hierarchy.links** - compute the parent-child links b/w tree nodes.  
**hierarchy.value** - get/set the val accessor fcn.  
**hierarchy.revalue** - recompute the hierarchy vals.

## Histogram

**d3.layout.histogram** - construct a new default histogram.  
**histogram** - compute the dist of data using quantized bins.  
**histogram.value** - get/set the val accessor fcn.  
**histogram.range** - get/set the considered val range.  
**histogram.bins** - specify how values are organized into bins.  
**histogram.frequency** - compute the dist as counts/probabilities.

## Pack

**d3.layout.pack** - produce a hierarchical layout using recursive circle-packing.  
**pack.sort** - control the order in which sibling nodes are traversed.  
**pack.children** - get/set the children accessor fcn.  
**pack.nodes** - compute the pack layout and return the array of nodes.  
**pack.links** - compute the parent-child links b/w tree nodes.  
**pack.value** - get/set the val accessor used to size circles.  
**pack.size** - specify the layout size in x and y.  
**pack.padding** - specify the layout padding in (approx) px.

## Partition

**d3.layout.partition** - recursively partition a node tree into a sunburst or icicle.  
**partition.sort** - control the order in which sibling nodes are traversed.  
**partition.children** - get/set the children accessor fcn.  
**partition.nodes** - compute the partition layout and return the array of nodes.  
**partition.links** - compute the parent-child links b/w tree nodes.  
**partition.value** - get/set the val accessor used to size circles.  
**partition.size** - specify the layout size in x and y.

## Pie

**d3.layout.pie** - construct a new default pie layout.  
**pie** - compute the start/end angles for arcs in a pie/donut chart.  
**pie.value** - get/set the val accessor fcn.  
**pie.sort** - control the clockwise order of pie slices.  
**pie.startAngle** - get/set the overall start angle of the pie.  
**pie.endAngle** - get/set the overall end angle of the pie.

## Stack

**d3.layout.stack** - construct a new default stack layout.  
**stack** - compute the baseline for each series in a stacked bar/area chart.  
**stack.values** - get/set the values accessor fcn per series.  
**stack.order** - control the order in which series are stacked.  
**stack.offset** - specify the overall baseline algorithm.  
**stack.x** - get/set the x-dimension accessor fcn.  
**stack.y** - get/set the y-dimension accessor fcn.  
**stack.out** - get/set the output fcn for storing the baseline.

## Tree

**d3.layout.tree** - position a tree of nodes tidily.  
**tree.sort** - control the order in which sibling nodes are traversed.  
**tree.children** - get/set the children accessor fcn.  
**tree.nodes** - compute the tree layout and return the array of nodes.  
**tree.links** - compute the parent-child links b/w tree nodes.  
**tree.separation** - get/set the spacing fcn b/w neighboring nodes.  
**tree.size** - specify the layout size in x and y.

## Treemap

**d3.layout.treemap** - use recursive spatial subdivision to display a tree of nodes.  
**treemap.sort** - control the order in which sibling nodes are traversed.  
**treemap.children** - get/set the children accessor fcn.  
**treemap.nodes** - compute the treemap layout and return the array of nodes.  
**treemap.links** - compute the parent-child links b/w tree nodes.  
**treemap.value** - get/set the val accessor used to size treemap cells.  
**treemap.size** - specify the layout size in x and y.  
**treemap.padding** - specify the padding b/w a parent and its children.  
**treemap.round** - enable/disable rounding to exact px.  
**treemap.sticky** - make the layout sticky for stable updates.  
**treemap.mode** - change the treemap layout algorithm.

## d3.geo (Geography)

### Paths

**d3.geo.path** - create a new geographic path generator.  
**path** - project the specified feature and render it to the context.  
**path.projection** - get/set the geographic proj.  
**path.context** - get/set the render context.  
**path.pointRadius** - get/set the radius to display point features.  
**path.area** - compute the proj area of a given feature.  
**path.centroid** - compute the proj centroid of a given feature.  
**path.bounds** - compute the proj bounds of a given feature.  
**d3.geo.circle** - create a circle generator.  
**circle** - generate a piecewise circle as a Polygon.  
**circle.origin** - specify the origin in lat and long.  
**circle.angle** - specify the angular radius in degrees.  
**circle.precision** - specify the precision of the piecewise circle.  
**d3.geo.area** - compute the spherical area of a given feature.  
**d3.geo.bounds** - compute the lat-long bounding box for a feature.  
**d3.geo.centroid** - compute the spherical centroid of a feature.  
**d3.geo.distance** - compute the great-arc dist b/w two points.  
**d3.geo.interpolate** - interpolate b/w 2 points along a great arc.  
**d3.geo.length** - compute the length of a line string/the circumf. of a polygon.

## Projections

**d3.geo.projection** - create a standard proj from a raw proj  
**projection** - project the specified location  
**projection.invert** - invert the proj for the specified point  
**projection.rotate** - get/set the proj's three-axis rotation  
**projection.center** - get/set the proj's center location  
**projection.translate** - get/set the proj's translation pos  
**projection.scale** - get/set the proj's scale factor  
**projection.clipAngle** - get/set the rad of the proj's clip circle  
**projection.clipExtent** - get/set the proj viewport clip ext(px)  
**projection.precision** - get/set the precision threshold for adaptive resampling  
**projection.stream** - wrap the specified stream listener, projecting input geometry  
**d3.geo.projectionMutator** - create a standard proj from a mutable raw proj  
**d3.geo.albers** - the Albers equal-area conic proj  
**albers.parallels** - get/set the proj's two standard parallels  
**d3.geo.albersUsa** - a composite Albers proj for the US  
**d3.geo.azimuthalEqualArea** - the azimuthal equal-area proj  
**d3.geo.azimuthalEquidistant** - the azimuthal equidist proj  
**d3.geo.conicConformal** - the conic conformal projection  
**d3.geo.conicEquidistant** - the conic equidist projection  
**d3.geo.conicEqualArea** - the conic equal-area (Albers) proj  
**d3.geo.equirectangular** - the equirect(plate carrée) proj  
**d3.geo.gnomonic** - the gnomonic proj.  
**d3.geo.mercator** - the spherical Mercator proj  
**d3.geo.orthographic** - the azimuthal orthographic proj  
**d3.geo.stereographic** - the azimuthal stereographic proj  
**d3.geo.azimuthalEqualArea.raw** - the raw azim eq-area proj  
**d3.geo.azimuthalEquidistant.raw** - the azim equidist proj  
**d3.geo.conicConformal.raw** - the raw conic conformal proj  
**d3.geo.conicEquidistant.raw** - the raw conic equidist proj  
**d3.geo.conicEqualArea.raw** - the raw conic equal-area (Albers) proj  
**d3.geo.equirectangular.raw** - raw equirect(plate carrée) proj  
**d3.geo.gnomonic.raw** - the raw gnomonic proj  
**d3.geo.mercator.raw** - the raw Mercator proj  
**d3.geo.orthographic.raw** - the raw azimuthal orthog proj  
**d3.geo.stereographic.raw** - the raw azimuthal stereog proj  
**d3.geo.transverseMercator.raw** - the raw transverse Mercator proj

## Streams

**d3.geo.stream** - convert a GeoJSON object to a geometry stream.  
**stream.point** - indicate an x, y (and optionally z) coord.  
**stream.lineStart** - indicate the start of a line or ring.  
**stream.lineEnd** - indicate the end of a line or ring.  
**stream.polygonStart** - indicate the start of a polygon.  
**stream.polygonEnd** - indicate the end of a polygon.  
**stream.sphere** - indicate a sphere.

## d3.geom (Geometry)

### Voronoi

**d3.geom.voronoi** - compute the Voronoi diagram for the specified points.  
**d3.geom.delaunay** - compute the Delaunay triangulation for the specified points.

### Quadtree

**d3.geom.quadtree** - constructs a quadtree for an array of points.  
**quadtree.add** - add a point to the quadtree.  
**quadtree.visit** - recursively visit nodes in the quadtree.

### Polygon

**d3.geom.polygon** -  
**polygon.area** -  
**polygon.centroid** -  
**polygon.clip** -

### Hull

**d3.geom.hull** -

## d3.behavior (Behaviors)

### Drag

**d3.behavior.drag** -  
**drag.origin** -  
**drag.on** -

### Zoom

**d3.behavior.zoom** -  
**zoom.on** -  
**zoom.scale** -  
**zoom.translate** -  
**zoom.scaleExtent** -  
**zoom.x** -  
**zoom.y** -