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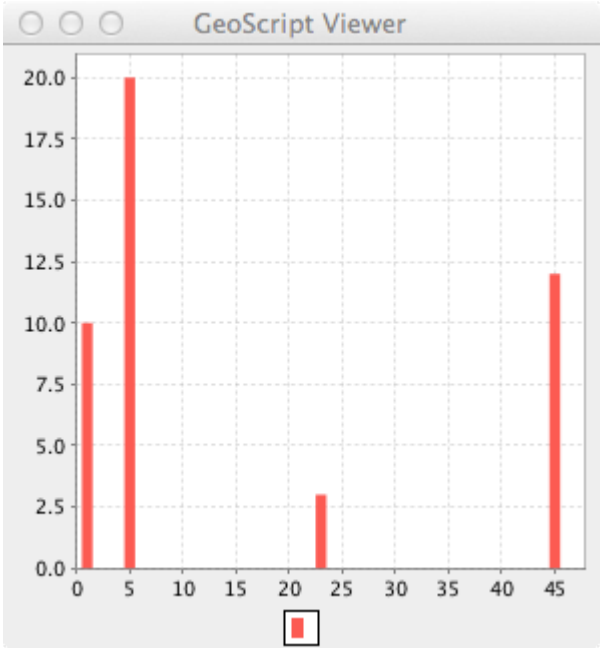
Plot Recipes

The Plot classes are in the **geoscript.plot** package.

Processing Charts

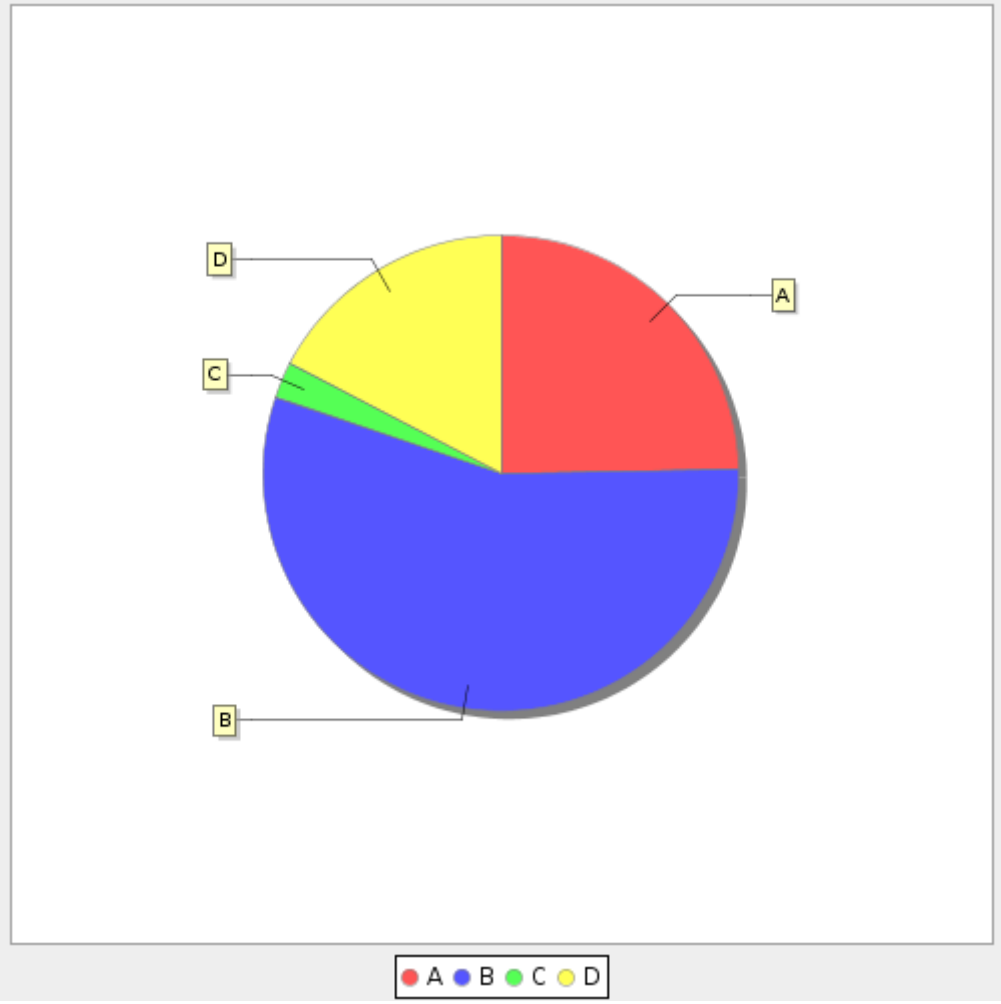
Show a chart in a GUI

```
List data = [
        [1,10],[45,12],[23,3],[5,20]
]
Chart chart = Bar.xy(data)
```



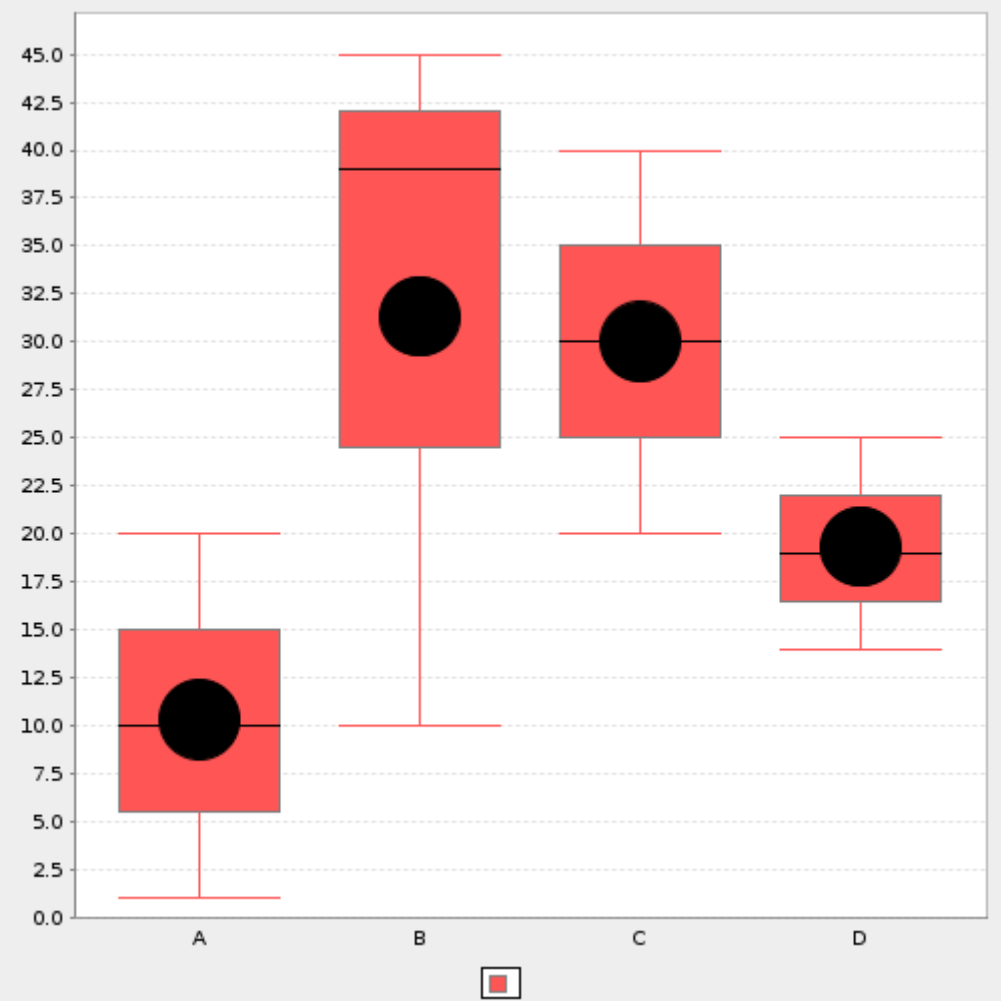
Get an image from a chart

```
Map data = [
        "A":20,"B":45,"C":2,"D":14
]
Chart chart = Pie.pie(data)
BufferedImage image = chart.image
```



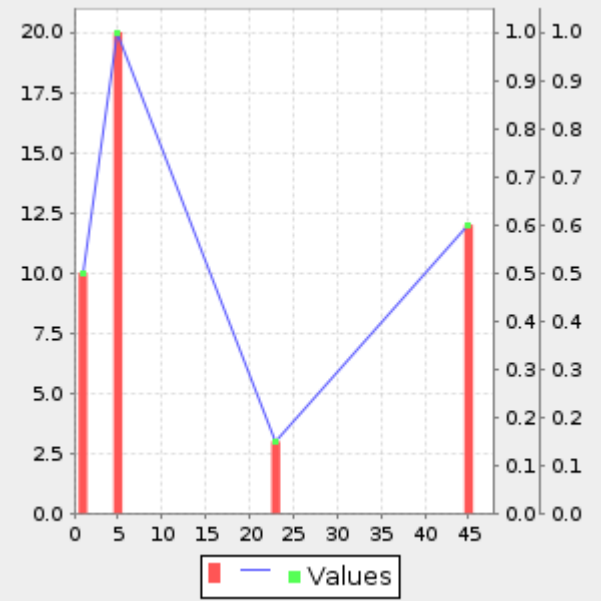
Save a chart to a file

```
Map data = [
        "A":[1,10,20],
        "B":[45,39,10],
        "C":[40,30,20],
        "D":[14,25,19]
]
Chart chart = Box.box(data)
File file = new File("chart.png")
chart.save(file)
```



Overlay multiple charts

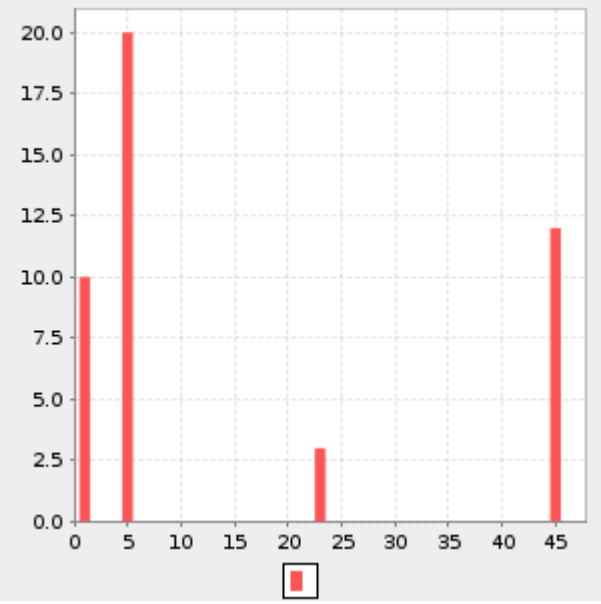
```
List data = [
        [1,10],[45,12],[23,3],[5,20]
]
Chart chart1 = Bar.xy(data)
Chart chart2 = Curve.curve(data)
Chart chart3 = Regression.linear(data)
chart1.overlay([chart2,chart3])
```



Creating Bar Charts

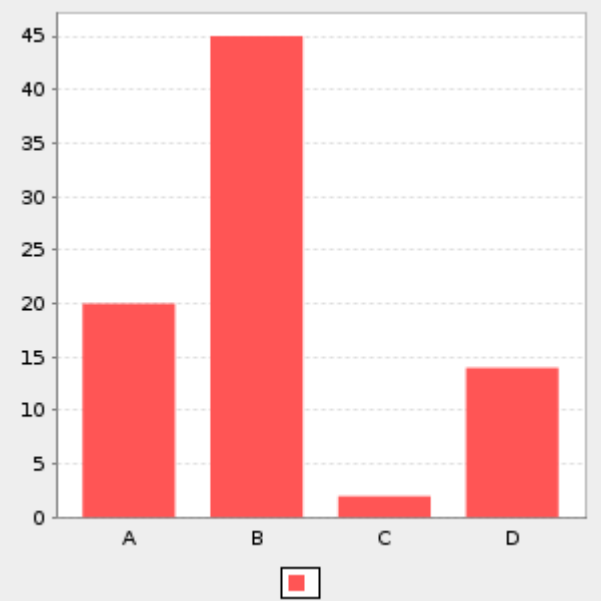
Create a basic bar chart

```
List data = [
        [1,10],[45,12],[23,3],[5,20]
]
Chart chart = Bar.xy(data)
```



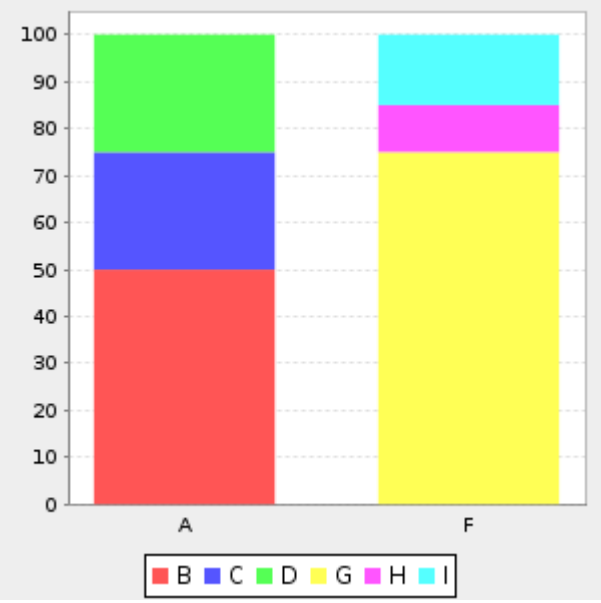
Create a bar chart with categories

```
Map data = [
        "A":20,"B":45,"C":2,"D":14
]
Chart chart = Bar.category(data)
```



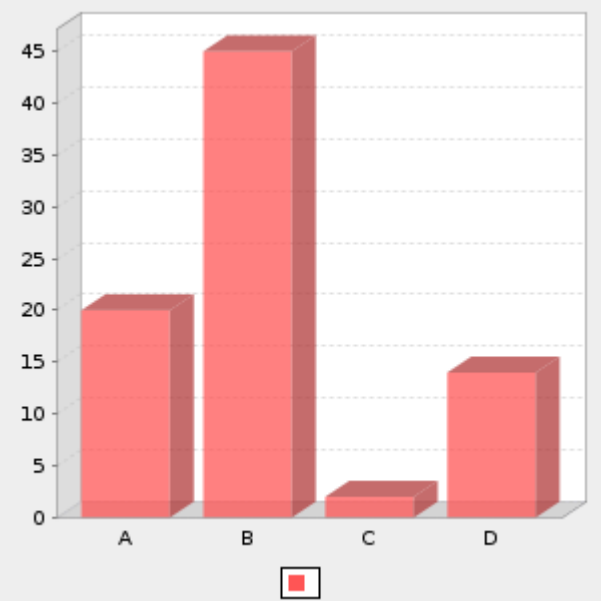
Create a stacked bar chart with two series of data

```
Map data = [
        "A": ["B":50,"C":25,"D":25],
        "F": ["G":75,"H":10,"I":15]
]
Chart chart = Bar.category(data, stacked: true)
```



Create a 3D bar chart with categories

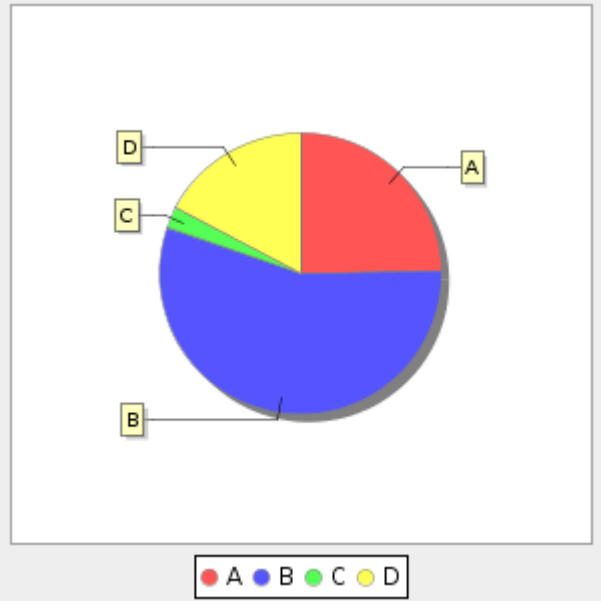
```
Map data = [
        "A":20,"B":45,"C":2,"D":14
]
Chart chart = Bar.category(data, trid: true)
```



Creating Pie Charts

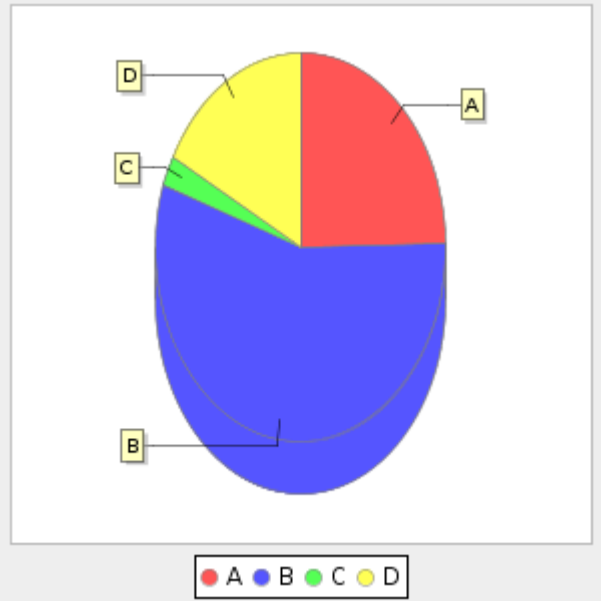
Create a pie chart

```
Map data = [
        "A":20,"B":45,"C":2,"D":14
]
Chart chart = Pie.pie(data)
```



Create a 3D pie chart

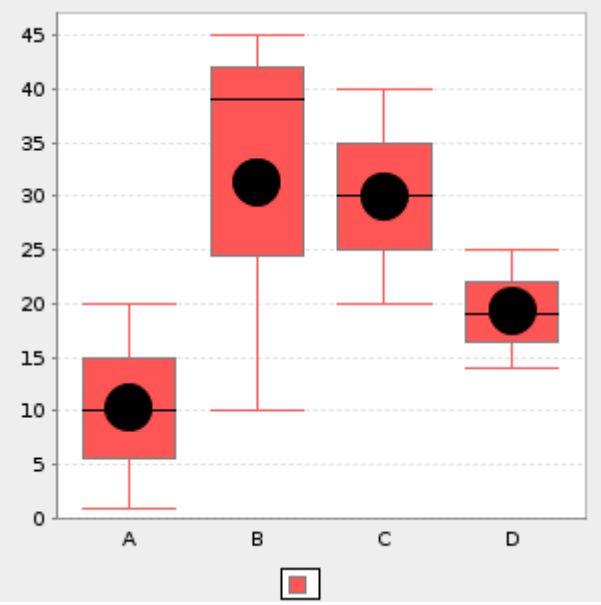
```
Map data = [
        "A":20,"B":45,"C":2,"D":14
]
Chart chart = Pie.pie(data, trid: true)
```



Creating Box Charts

Create a box chart

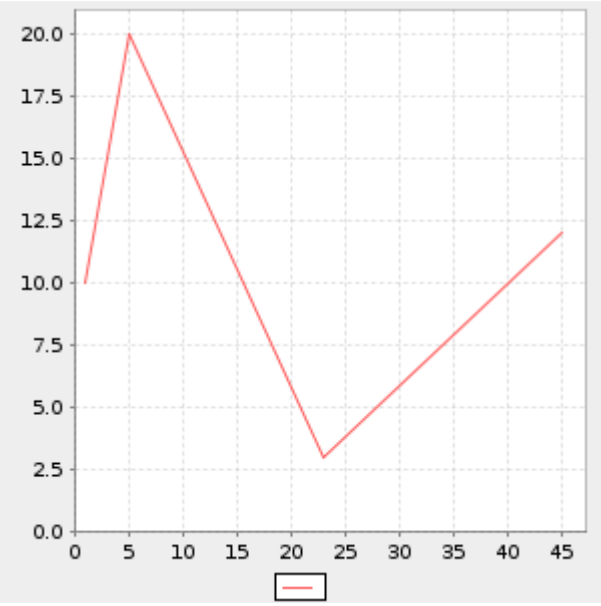
```
Map data = [
        "A":[1,10,20],
        "B":[45,39,10],
        "C":[40,30,20],
        "D":[14,25,19]
]
Chart chart = Box.box(data)
```



Creating Curve Charts

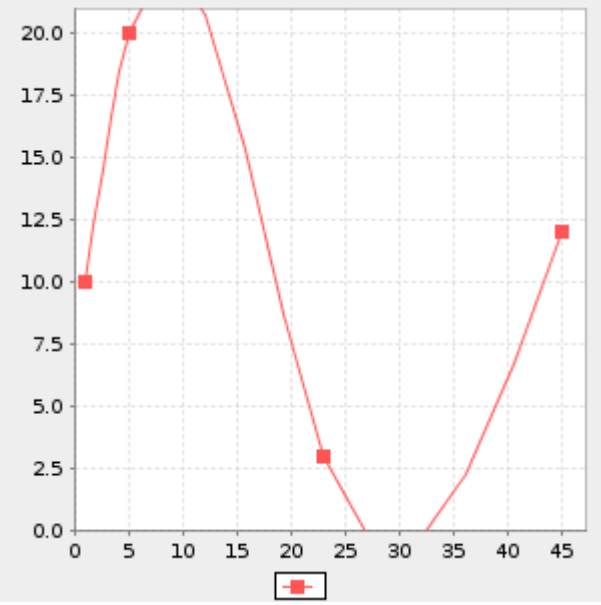
Create a curve chart

```
List data = [
        [1,10],[45,12],[23,3],[5,20]
]
Chart chart = Curve.curve(data)
```



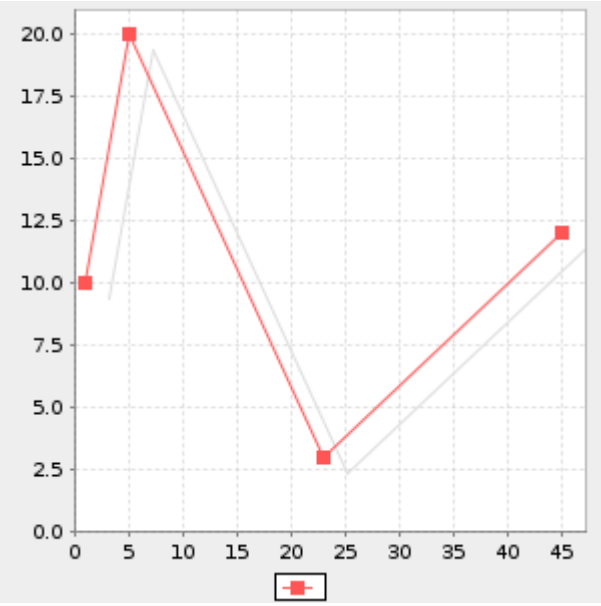
Create a smooth curve chart

```
List data = [
        [1,10],[45,12],[23,3],[5,20]
]
Chart chart = Curve.curve(data, smooth: true)
```



Create a 3D curve chart

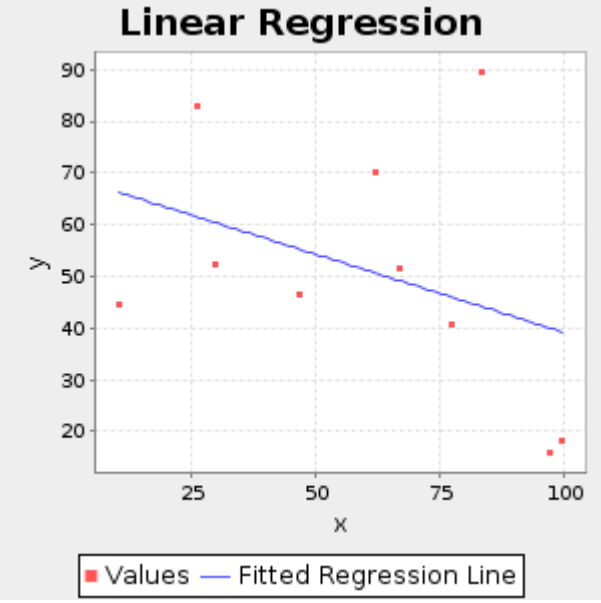
```
List data = [
        [1,10],[45,12],[23,3],[5,20]
]
Chart chart = Curve.curve(data, trid: true)
```



Creating Regression Charts

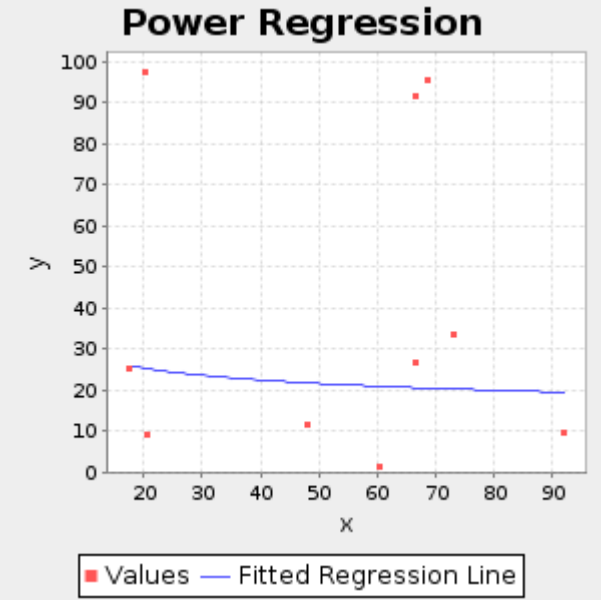
Create a linear regression chart

```
MultiPoint mulitPoint = Geometry.createRandomPoints(new Bounds(0,0,100,100).geometry,
10)
List data = mulitPoint.geometries.collect{ Point pt ->
    [pt.x, pt.y]
}
Chart chart = Regression.linear(data)
```



Create a power regression chart

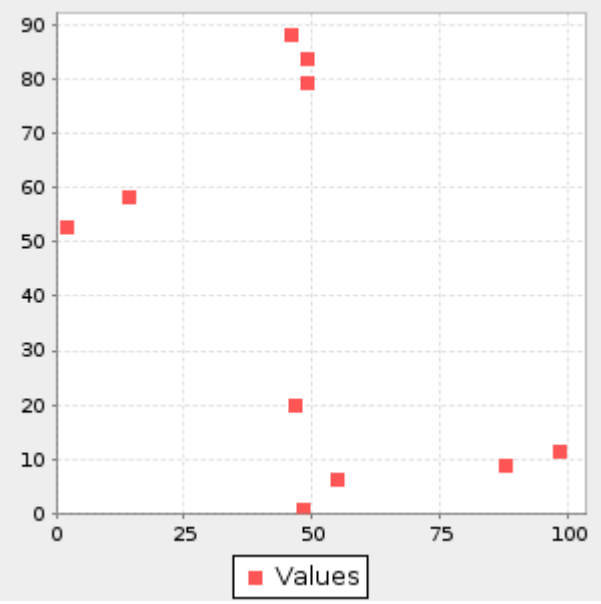
```
MultiPoint mulitPoint = Geometry.createRandomPoints(new Bounds(0,0,100,100).geometry,
10)
List data = mulitPoint.geometries.collect{ Point pt ->
    [pt.x, pt.y]
}
Chart chart = Regression.power(data)
```



Creating Scatter Plot Charts

Create a scatter plot chart

```
MultiPoint mulitPoint = Geometry.createRandomPoints(new Bounds(0,0,100,100).geometry,
10)
List data = mulitPoint.geometries.collect{ Point pt ->
    [pt.x, pt.y]
}
Chart chart = Scatter.scatterplot(data)
```



Create a scatter plot chart with options

```
MultiPoint mulitPoint = Geometry.createRandomPoints(new Bounds(0,0,100,100).geometry,
10)
List data = mulitPoint.geometries.collect{ Point pt ->
    [pt.x, pt.y]
}
Chart chart = Scatter.scatterplot(data, legend: false, xLabel: "X Coordinates",
yLabel: "Y Coordinates")
```