FERIT

LV1 – Vizualizacija podataka

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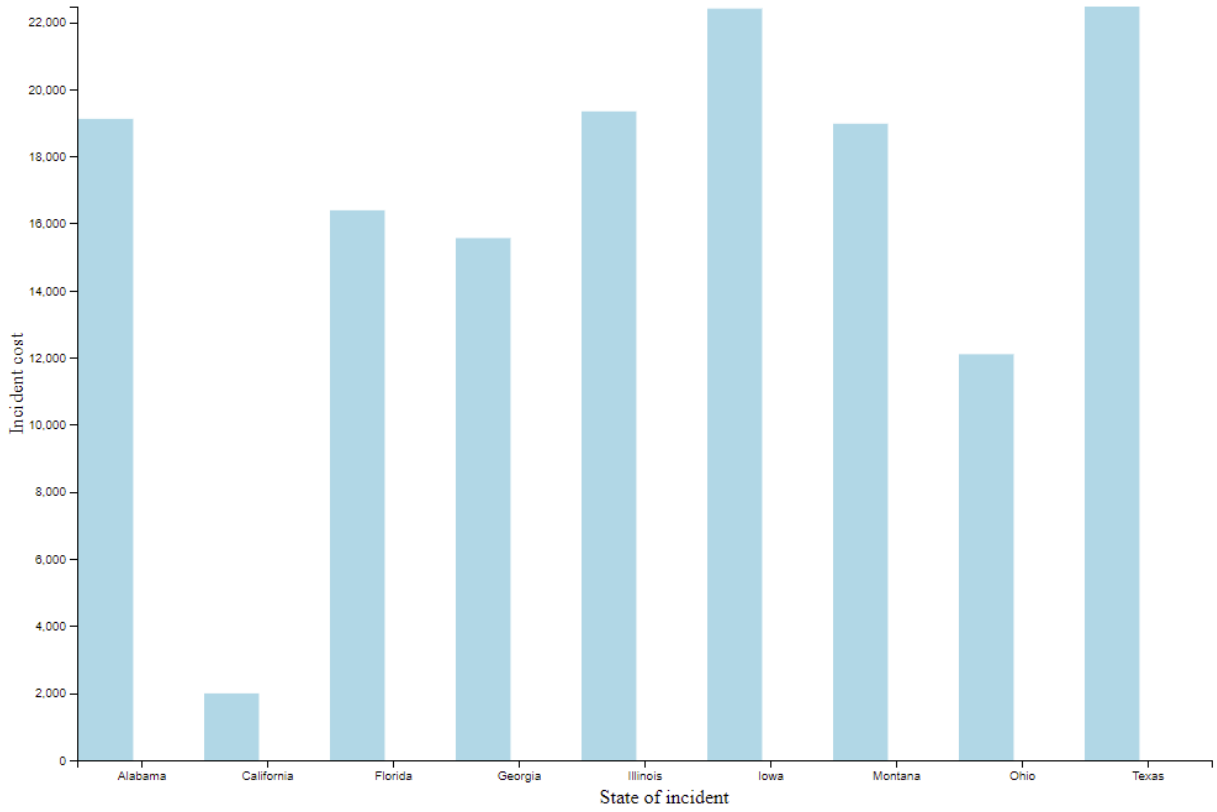
1. Zadatak

```
var jsonData = [{"ID": 1,"State":"Alabama","NumberOfIncidents":
11,"IncidentCost":19115},
    {"ID": 2,"State":"California","NumberOfIncidents": 9,"IncidentCost":1991},
    {"ID": 3,"State":"Florida","NumberOfIncidents": 12,"IncidentCost":16390},
    {"ID": 4,"State":"Georgia","NumberOfIncidents": 12,"IncidentCost":15561},
    {"ID": 5,"State":"Illinois","NumberOfIncidents": 15,"IncidentCost":19338},
    {"ID": 6,"State":"Iowa","NumberOfIncidents": 14,"IncidentCost":22401},
    {"ID": 7,"State":"Montana","NumberOfIncidents": 10,"IncidentCost":18971},
    {"ID": 8,"State":"Ohio","NumberOfIncidents": 10,"IncidentCost":12101},
    {"ID": 9,"State":"Texas","NumberOfIncidents": 17,"IncidentCost":22462}];
```

2. Zadatak i 3. Zadatak

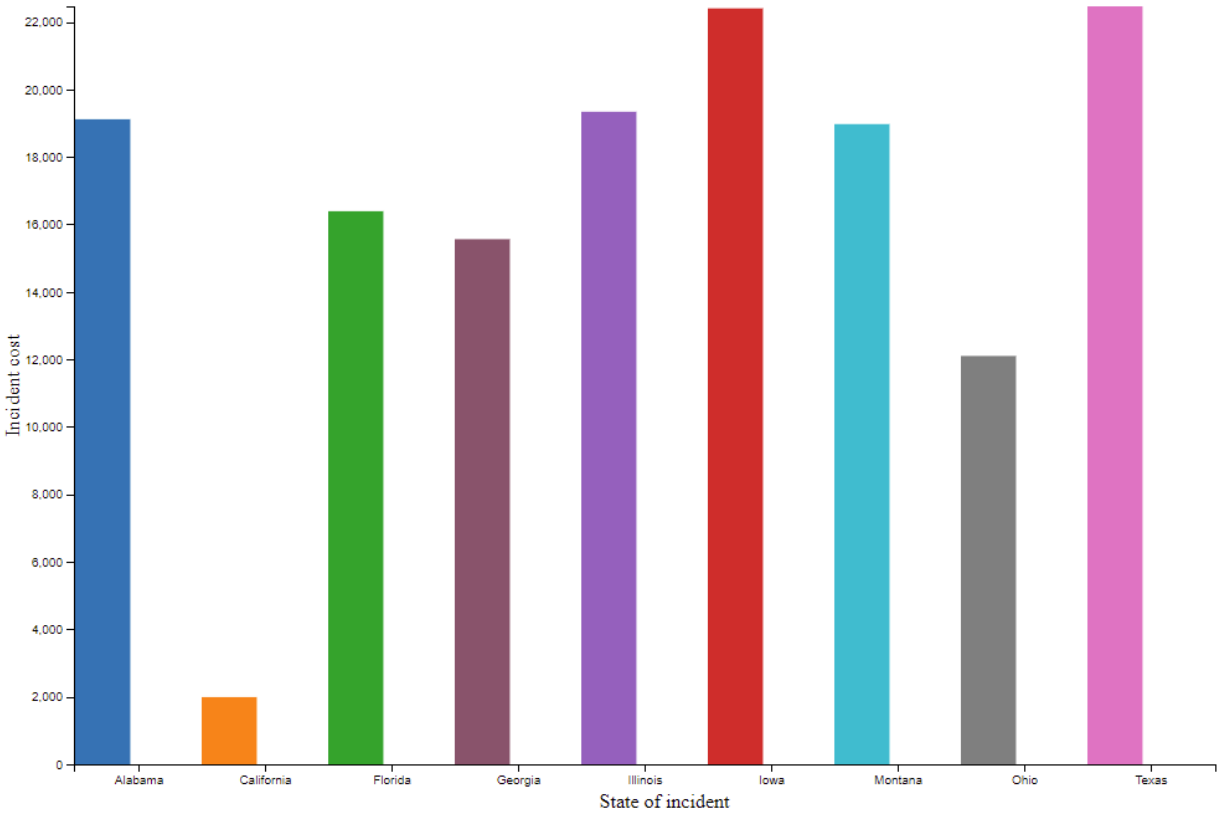
```
 var data = [jsonData[0].IncidentCost, jsonData[1].IncidentCost,
jsonData[2].IncidentCost, jsonData[3].IncidentCost,
jsonData[4].IncidentCost, jsonData[5].IncidentCost,
jsonData[6].IncidentCost,
            jsonData[7].IncidentCost, jsonData[8].IncidentCost];

var StateNames = [jsonData[0].State, jsonData[1].State,
jsonData[2].State, jsonData[3].State, jsonData[4].State,
jsonData[5].State, jsonData[6].State,
            jsonData[7].State, jsonData[8].State];

var margin = {top: 20, bottom: 70, left:60, right: 20};
var width = 1000 - margin.left - margin.right;
var height = 700 - margin.top - margin.bottom;
var barPadding = 4;
var barWidth = width / 19 - barPadding;

var x = d3.scaleBand()
    .domain(d3.range(9))
    .rangeRound([0, width]);

var y = d3.scaleLinear()
    .domain([0, d3.max(data)])
    .range([height, 0]);
```

```
        var svg = d3.select("body")
         .append("svg")
         .attr("width", width + margin.left + margin.right)
         .attr("height", height + margin.bottom + margin.top)
         .append("g")
         .attr("transform", "translate(" + margin.left + "," + margin.top
+")");

        var xAxis = d3.axisBottom(x)
         .tickFormat(function(d, i) { return StateNames[i]; });

         var yAxis = d3.axisLeft(y);

         svg.append("g")
         .attr("class", "x axis")
         .attr("transform", "translate(0," + height + ")")
         .call(xAxis)

         svg.append("text")
         .attr("x", (width / 2))
         .attr("y", (height + (margin.bottom / 2)))
         .attr("dx", "1em")
         .style("text-anchor", "middle")
         .text("State of incident");

         svg.append("g")
         .attr("class", "y axis")
         .call(yAxis);

         svg.append("text")
         .attr("transform", "rotate(-90)")
         .attr("x",0 - (height / 2))
         .attr("y", 0 - margin.left)
         .attr("dy", "1em")
         .style("text-anchor", "middle")
         .text("Incident cost");

         var barchart = svg.selectAll("rect")
         .data(data)
         .enter()
         .append("rect")
         .attr("x", function(d, i) { return x(i); })
         .attr("y", y) .attr("height", function(d) { return height - y(d);
})
         .attr("width", barWidth)
         .attr("fill", "lightblue");
```

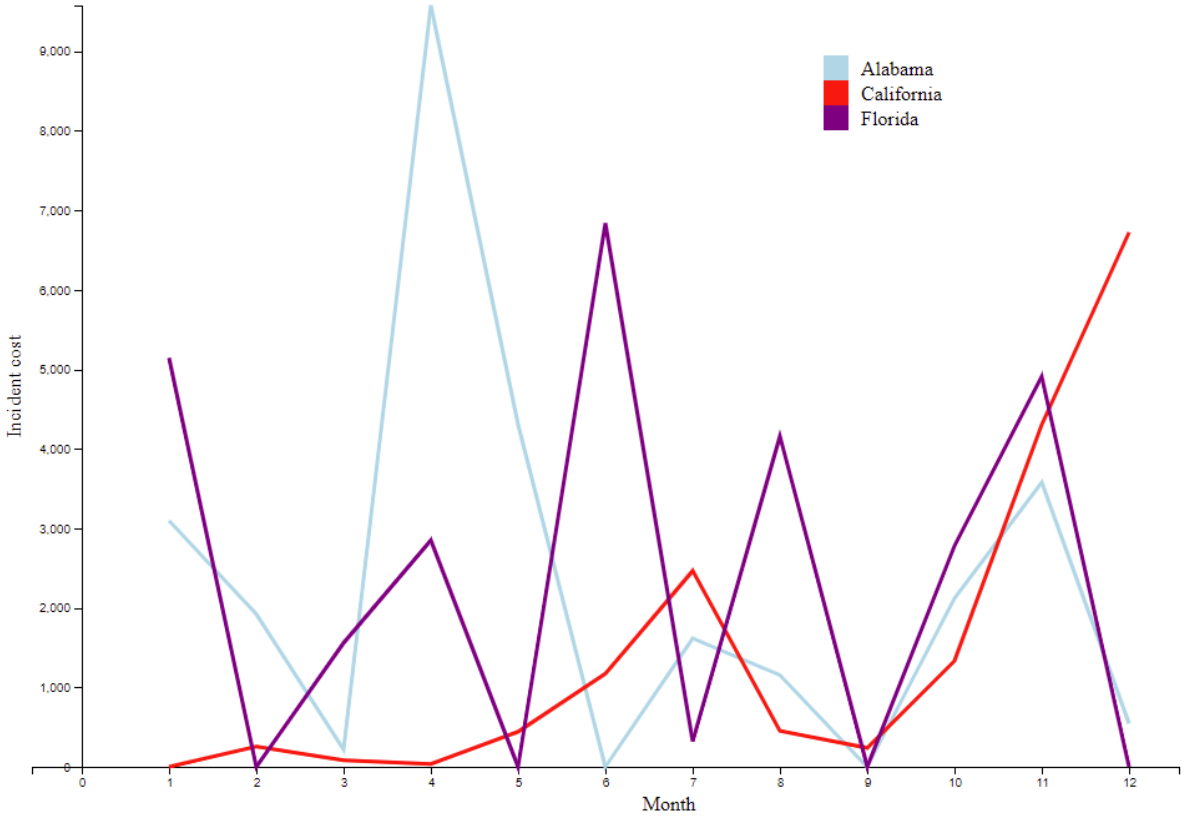

22,000
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Incident cost
Alabama
California
Florida
Georgia
Illinois
Iowa
Montana
Ohio
Texas
State of incident

4. Zadatak

```
var colors = ['#1f77b4', '#ff7f0e', '#2ca02c', '#8c546b',
'#9467bd', '#d62728', '#17becf', '#7f7f7f', '#e377c2'];

var skala = d3.scaleOrdinal(d3.schemeCategory10)
      .range(colors)
     .domain(data);

var barchart = svg.selectAll("rect")
     .data(data)
     .enter()
     .append("rect")
     .attr("x", function(d, i) { return x(i); })
     .attr("y", y) .attr("height", function(d) { return
height - y(d); })
     .attr("width", barWidth)
      .attr("fill",function(d, i) {return skala(i)});
```



5.Zadatak



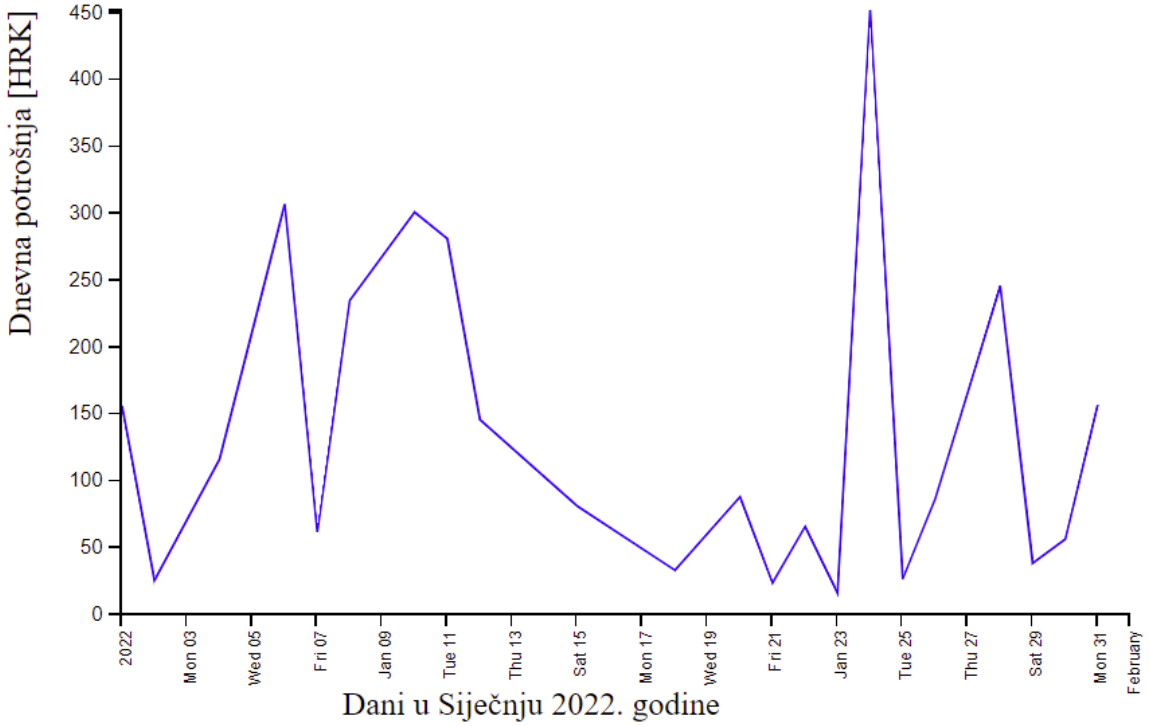

```
var alabama = [{"Month": 1,"IncidentCost":3096},
                        {"Month": 2,"IncidentCost":1922},
                        {"Month": 3,"IncidentCost":217},
                        {"Month": 4,"IncidentCost":9577},
                        {"IMonthD": 5,"IncidentCost":4303},
                        {"Month": 6,"IncidentCost":0},
                        {"Month": 7,"IncidentCost":1614},
                        {"Month": 8, "IncidentCost":1155},
                        {"Month": 9,"IncidentCost":0},
                        {"Month": 10,"IncidentCost":2120},
                        {"Month": 11,"IncidentCost":3578},
                        {"Month": 12,"IncidentCost":547}];
```

```
var california = [{"Month": 1,"IncidentCost":0},
                        {"Month": 2,"IncidentCost":256},
                        {"Month": 3,"IncidentCost":84},
                        {"Month": 4,"IncidentCost":37},
                        {"IMonthD": 5,"IncidentCost":442},
                        {"Month": 6,"IncidentCost":1172},
                        {"Month": 7,"IncidentCost":2466},
                        {"Month": 8, "IncidentCost":453},
                        {"Month": 9,"IncidentCost":238},
                        {"Month": 10,"IncidentCost":1331},
                        {"Month": 11,"IncidentCost":4298},
                        {"Month": 12,"IncidentCost":6720}];

        var florida = [{"Month": 1,"IncidentCost":5144},
                        {"Month": 2,"IncidentCost":0},
                        {"Month": 3,"IncidentCost":1559},
                        {"Month": 4,"IncidentCost":2851},
                        {"IMonthD": 5,"IncidentCost":0},
                        {"Month": 6,"IncidentCost":6836},
                        {"Month": 7,"IncidentCost":321},
                        {"Month": 8, "IncidentCost":4160},
                        {"Month": 9,"IncidentCost":0},
                        {"Month": 10,"IncidentCost":2779},
                        {"Month": 11,"IncidentCost":4908},
                        {"Month": 12,"IncidentCost":0}];

        var data1 = [alabama[0].IncidentCost,
alabama[1].IncidentCost, alabama[2].IncidentCost,
alabama[3].IncidentCost, alabama[4].IncidentCost,
alabama[5].IncidentCost, alabama[6].IncidentCost,
alabama[7].IncidentCost, alabama[8].IncidentCost,
alabama[9].IncidentCost, alabama[10].IncidentCost,
alabama[11].IncidentCost];

        var data2 = [california[0].IncidentCost,
california[1].IncidentCost, california[2].IncidentCost,
california[3].IncidentCost, california[4].IncidentCost,
california[5].IncidentCost, california[6].IncidentCost,
california[7].IncidentCost, california[8].IncidentCost,
california[9].IncidentCost, california[10].IncidentCost,
california[11].IncidentCost];

        var data3 = [florida[0].IncidentCost,
florida[1].IncidentCost, florida[2].IncidentCost,
florida[3].IncidentCost, florida[4].IncidentCost,
florida[5].IncidentCost, florida[6].IncidentCost,
florida[7].IncidentCost, florida[8].IncidentCost,
florida[9].IncidentCost, florida[10].IncidentCost,
florida[11].IncidentCost];
```

```
        svg.append("text")
             .attr("transform", "rotate(-90)")
             .attr("x",0 - (height / 2))
             .attr("y", 0 - margin.left)
             .attr("dy", "1em")
             .style("text-anchor", "middle")
             .text("Incident cost");

         svg.append("path")
             .datum(data1)
             .attr("fill", "none")
             .attr("stroke", "lightblue")
             .attr("stroke-width", 3)
             .attr("d", d3.line()
                 .x(function(d, i) { return x(i+1) })
                 .y(function(d) { return y(d) })
                 );

         svg.append("path")
             .datum(data2)
             .attr("fill", "none")
             .attr("stroke", "red")
             .attr("stroke-width", 3)
             .attr("d", d3.line()
                 .x(function(d, i) { return x(i+1) })
                 .y(function(d) { return y(d) })
                 );

         svg.append("path")
             .datum(data3)
             .attr("fill", "none")
             .attr("stroke", "purple")
             .attr("stroke-width", 3)
             .attr("d", d3.line()
                 .x(function(d, i) { return x(i+1) })
                 .y(function(d) { return y(d) })
                 );
             .attr("stroke-width", 3)
             .attr("d", d3.line()
                 .x(function(d, i) { return x(i+1) })
                 .y(function(d) { return y(d) })
                 );

         svg.append("path")
             .datum(data3)
             .attr("fill", "none")
             .attr("stroke", "purple")
             .attr("stroke-width", 3)
             .attr("d", d3.line()
                 .x(function(d, i) { return x(i+1) })
                 .y(function(d) { return y(d) })
                 );
```

```
svg.append("rect")
            .attr("width","200")
            .attr("height","100")
            .attr("x","600")
            .attr("y","20")
            .attr("style","fill:white;");

        svg.append("rect")
            .attr("width","20")
            .attr("height","20")
            .attr("x","600")
            .attr("y","40")
            .attr("style","fill:lightblue;");

        svg.append("text")
            .attr("x",630)
            .attr("y",40)
            .attr("dy", "1em")
            .style("text-anchor", "start")
            .text("Alabama");

        svg.append("rect")
            .attr("width","20")
            .attr("height","20")
            .attr("x","600")
            .attr("y","60")
            .attr("style","fill:red;")

        svg.append("text")
            .attr("x",630)
            .attr("y",60)
            .attr("dy", "1em")
            .style("text-anchor", "start")
            .text("California");

        svg.append("rect")
            .attr("width","20")
            .attr("height","20")
            .attr("x","600")
            .attr("y","80")
            .attr("style","fill:purple;");

        svg.append("text")
            .attr("x",630)
            .attr("y",80)
            .attr("dy", "1em")
            .style("text-anchor", "start")
            .text("Florida");
```

6.Zadatak




```
var data = [{"Datum":"2022-01-01","IznosKupovine":155.84},
                        {"Datum":"2022-01-02","IznosKupovine":25.19},
                        {"Datum":"2022-01-04","IznosKupovine":115.69},
                        {"Datum":"2022-01-06","IznosKupovine":306.67},
                        {"Datum":"2022-01-07","IznosKupovine":61.65},
                        {"Datum":"2022-01-08","IznosKupovine":234.64},
                        {"Datum":"2022-01-10","IznosKupovine":300.58},
                        {"Datum":"2022-01-11","IznosKupovine":280.74},
                        {"Datum":"2022-01-12","IznosKupovine":145.41},
                        {"Datum":"2022-01-15","IznosKupovine":80.67},
                        {"Datum":"2022-01-18","IznosKupovine":32.88},
                        {"Datum":"2022-01-20","IznosKupovine":87.73},
                        {"Datum":"2022-01-21","IznosKupovine":23.33},
                        {"Datum":"2022-01-22","IznosKupovine":65.47},
                        {"Datum":"2022-01-23","IznosKupovine":15.82},
                        {"Datum":"2022-01-24","IznosKupovine":451.85},
                        {"Datum":"2022-01-25","IznosKupovine":26.14},
                        {"Datum":"2022-01-26","IznosKupovine":86.09},
                        {"Datum":"2022-01-28","IznosKupovine":245.43},
                        {"Datum":"2022-01-29","IznosKupovine":38.12},
                        {"Datum":"2022-01-30","IznosKupovine":56.02},
                        {"Datum":"2022-01-31","IznosKupovine":156.40}]
```

```
        var margin = {top: 20, bottom: 70, left:10, right: 20};

        var elementWidth = 500;
        var elementHeight = 300;
        var height = 150;
        var width = 70;

        var element = d3.select("body")
            .append("svg")
            .attr("width", elementWidth + (width * 2) + margin.left + margin.right)
            .attr("height", elementHeight + (height * 2) + margin.bottom +
margin.top)
            .append("g")
            .attr("transform", "translate(" + margin.left + "," + margin.top +")");

        var x = d3.time.scale()
            .domain(
                [ new Date(d3.min(data.map(function (d) {return
Date.parse(d.Datum)})),),
                new Date(d3.max(data.map(function (d) {return
Date.parse(d.Datum)}))))])
            .nice()
            .range([0, elementWidth]);

        var y = d3.scale.linear()
            .domain([0, d3.max(data.map(function(d){return d.IznosKupovine;}))])
            .range([elementHeight,0]);

        var valueline = d3.svg.line()
            .x(function(d) { return x(Date.parse(d.Datum)); })
            .y(function(d) { return y(d.IznosKupovine); });

        var linechart = element.append("path")
            .attr("class", "line")
            .attr("transform", "translate(" + width + "," + 0 + ")")
            .attr("d", valueline(data, function(d){ return data.IznosKupovine}))
            .attr("fill","none")
            .style("stroke", "blue");

        var xAxis = d3.svg.axis()
            .scale(x)
            .orient("bottom");

       element.append("g")
            .attr("class", "axis")
            .attr("transform", "translate(" + width + "," + elementHeight + ")")
            .call(xAxis)
            .selectAll("text")
            .style("text-anchor", "end")
            .attr("dx", "-1em")
            .attr("dy", "-0.5em")
            .style("font-size","0.8em")
            .attr("transform", "rotate(-90)" );
```

```
var yAxis = d3.svg.axis()
    .scale(y)
    .orient("left");

element.append("g")
    .attr("class", "axis")
    .attr("transform", "translate(" + width + ",0)")
    .call(yAxis)

element.append("text")
    .attr("transform", "rotate(-90)")
    .attr("y", 25)
    .style("text-anchor", "end")
    .text("Dnevna potrošnja [HRK]");

element.append("g")
    .append("text")
    .attr("x", elementWidth / 2 - width)
    .attr("y", elementHeight + height/3)
    .style("text-anchor", "start")
    .text("Dani u Siječnju 2022. godine");
```