**Name: Sambeg Raj Subedi**

**Date: May 19, 2021**

**Codes:**

1. **For all hate crimes**

{

"$schema": "https://vega.github.io/schema/vega-lite/v4.json",

"data": {

"url": "https://raw.githubusercontent.com/visualization-project-group/surprise-map-assignment/master/hate\_crime.csv"

},

"selection": {"highlight": {"type": "single"}},

"mark": "rect",

"encoding": {

"y": {

"field": "INCIDENT\_DATE",

"timeUnit": "year",

"type": "ordinal",

"title": "Year"

},

"x": {

"field": "INCIDENT\_DATE",

"timeUnit": "month",

"type": "ordinal",

"title": "Month"

},

"color": {

"aggregate": "average",

"field": "VICTIM\_COUNT",

"title": "Average number of victims"

}

},

"config": {"axis": {"grid": true, "tickBand": "extent"}}

}

**b. for Asian hate crimes**

{

"$schema": "https://vega.github.io/schema/vega-lite/v4.json",

"data": {

"url": "https://raw.githubusercontent.com/Sambeg-Subedi/Visualization/main/Asianhatecrimes.csv"

},

"selection": {"highlight": {"type": "single"}},

"mark": "rect",

"encoding": {

"y": {

"field": "INCIDENT\_DATE",

"timeUnit": "year",

"type": "ordinal",

"title": "Year"

},

"x": {

"field": "INCIDENT\_DATE",

"timeUnit": "month",

"type": "ordinal",

"title": "Month"

},

"color": {

"aggregate": "average",

"field": "VICTIM\_COUNT",

"title": "Average number of Asian victims"

}

},

"config": {"axis": {"grid": true, "tickBand": "extent"}}

}

2. **Number of Asian hate crimes reported till 2019 on each States**

{

"$schema": "https://vega.github.io/schema/vega-lite/v5.json",

"data": {

"url": "https://raw.githubusercontent.com/Sambeg-Subedi/Visualization/main/Asianhatecrimes.csv"

},

"mark": "bar",

"encoding": {

"x": {"field": "STATE\_NAME", "type": "nominal"},

"y": {"aggregate": "sum", "field": "VICTIM\_COUNT", "type": "quantitative"}

}

}

3. **Displaying the frequency of Asian hate crimes on Different location**

{

"$schema": "https://vega.github.io/schema/vega-lite/v5.json",

"data": {

"url": "https://raw.githubusercontent.com/Sambeg-Subedi/Visualization/main/Asianhatecrimes.csv"

},

"mark": "bar",

"encoding": {

"x": {"field": "LOCATION\_NAME", "type": "nominal"},

"y": {"aggregate": "count", "field": "VICTIM\_COUNT", "type": "quantitative"}

}

}

4. **Analyzing the types of offense during Asian hate crimes**

{

"$schema": "https://vega.github.io/schema/vega-lite/v5.json",

"data": {

"url": "https://raw.githubusercontent.com/Sambeg-Subedi/Visualization/main/Asianhatecrimes.csv"

},

"mark": "point",

"encoding": {

"x": {"field": "OFFENSE\_NAME", "type": "nominal"},

"y": {"aggregate": "sum", "field": "VICTIM\_COUNT", "type": "quantitative"}

}

}

**5. Line chart**

**For Asian hate crimes**

{

"$schema": "https://vega.github.io/schema/vega-lite/v5.json",

"transform": [{"filter": "datum.REGION\_NAME !== 'Other'"}],

"transform": [{"filter": "datum.REGION\_NAME !== 'U.S Territories'"}],

"data": {

"url": " https://raw.githubusercontent.com/Sambeg-Subedi/Visualization/main/Asianhatecrimes.csv "

},

"width": 600,

"height": 400,

"layer": [

{

"encoding": {

"x": {"field": "INCIDENT\_DATE", "type": "temporal"},

"y": {"field": "VICTIM\_COUNT", "type": "quantitative"},

"color": {"field": "REGION\_NAME", "type": "nominal"}

},

"layer": [

{"mark": "line"},

{

"params": [

{

"name": "label",

"select": {

"type": "point",

"encodings": ["x"],

"nearest": true,

"on": "mouseover"

}

}

],

"mark": "point",

"encoding": {

"opacity": {

"condition": {"param": "label", "empty": false, "value": 1},

"value": 0

}

}

}

]

},

{

"transform": [{"filter": {"param": "label", "empty": false}}],

"layer": [

{

"mark": {"type": "rule", "color": "gray"},

"encoding": {

"x": {"type": "temporal", "field": "INCIDENT\_DATE", "aggregate": "min"}

}

},

{

"encoding": {

"text": {"type": "quantitative", "field": "VICTIM\_COUNT"},

"x": {"type": "temporal", "field": "INCIDENT\_DATE"},

"y": {"type": "quantitative", "field": "VICTIM\_COUNT"}

},

"layer": [

{

"mark": {

"type": "text",

"stroke": "white",

"strokeWidth": 2,

"align": "left",

"dx": 5,

"dy": -5

}

},

{

"mark": {"type": "text", "align": "left", "dx": 5, "dy": -5},

"encoding": {"color": {"type": "nominal", "field": "REGION\_NAME"}}

}

]

}

]

}

]

}

b. For all hate crimes

{

"$schema": "https://vega.github.io/schema/vega-lite/v5.json",

"transform": [{"filter": "datum.REGION\_NAME !== 'Other'"}],

"transform": [{"filter": "datum.REGION\_NAME !== 'U.S Territories'"}],

"data": {

"url": "https://raw.githubusercontent.com/visualization-project-group/surprise-map-assignment/master/hate\_crime.csv"

},

"width": 600,

"height": 400,

"layer": [

{

"encoding": {

"x": {"field": "INCIDENT\_DATE", "type": "temporal"},

"y": {"field": "VICTIM\_COUNT", "type": "quantitative"},

"color": {"field": "REGION\_NAME", "type": "nominal"}

},

"layer": [

{"mark": "line"},

{

"params": [

{

"name": "label",

"select": {

"type": "point",

"encodings": ["x"],

"nearest": true,

"on": "mouseover"

}

}

],

"mark": "point",

"encoding": {

"opacity": {

"condition": {"param": "label", "empty": false, "value": 1},

"value": 0

}

}

}

]

},

{

"transform": [{"filter": {"param": "label", "empty": false}}],

"layer": [

{

"mark": {"type": "rule", "color": "gray"},

"encoding": {

"x": {"type": "temporal", "field": "INCIDENT\_DATE", "aggregate": "min"}

}

},

{

"encoding": {

"text": {"type": "quantitative", "field": "VICTIM\_COUNT"},

"x": {"type": "temporal", "field": "INCIDENT\_DATE"},

"y": {"type": "quantitative", "field": "VICTIM\_COUNT"}

},

"layer": [

{

"mark": {

"type": "text",

"stroke": "white",

"strokeWidth": 2,

"align": "left",

"dx": 5,

"dy": -5

}

},

{

"mark": {"type": "text", "align": "left", "dx": 5, "dy": -5},

"encoding": {"color": {"type": "nominal", "field": "REGION\_NAME"}}

}

]

}

]

}

]

}