Data visualization

The plotly.express module (usually imported as px) contains functions that can create entire figures at once, and is referred to as Plotly Express or PX. Plotly Express is a built-in part of the plotly library, and is the recommended starting point for creating most common figures. Every Plotly Express function uses graph objects internally and returns a plotly.graph_objects.Figure instance. Throughout the plotly documentation, you will find the Plotly Express way of building figures at the top of any applicable page, followed by a section on how to use graph objects to build similar figures. Any figure created in a single function call with Plotly Express could be created using graph objects alone, but with between 5 and 100 times more code.

```
import pandas as pd

import plotly.express as px

data = pd.read_csv('insurance.csv')
```

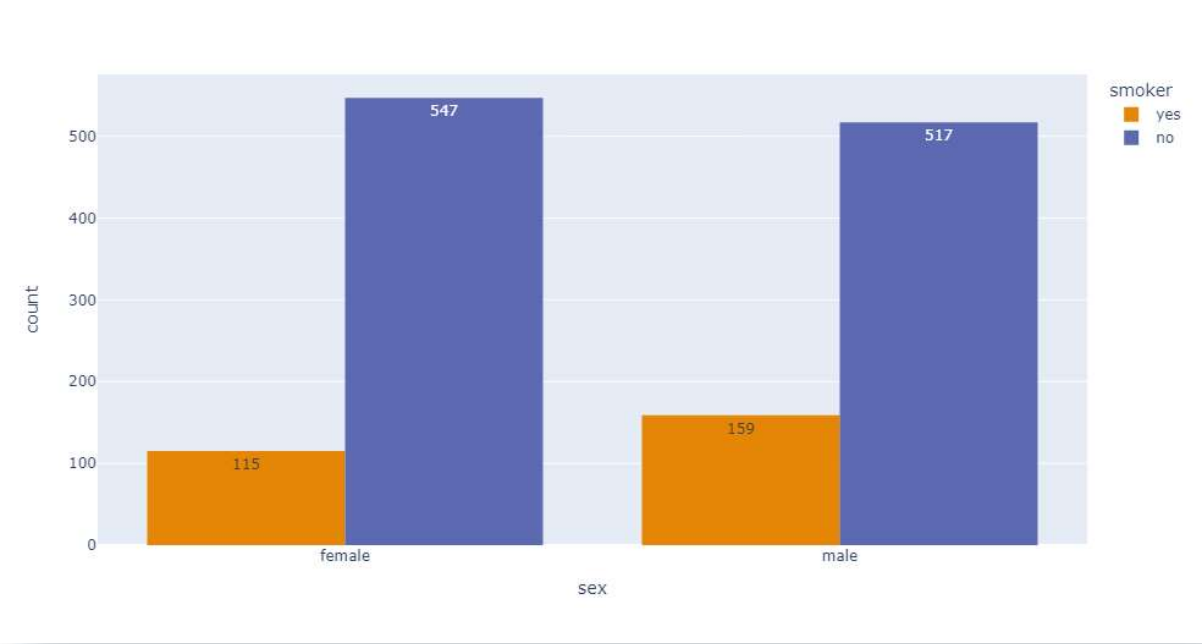
showing the correlation between all columns by imshow function by selecting how many digits we want by round(), showing the numerical information on the graph by using text_auto=True

```
fig = px.imshow(data.corr().round(3) ,text_auto=True )

fig.show()
```

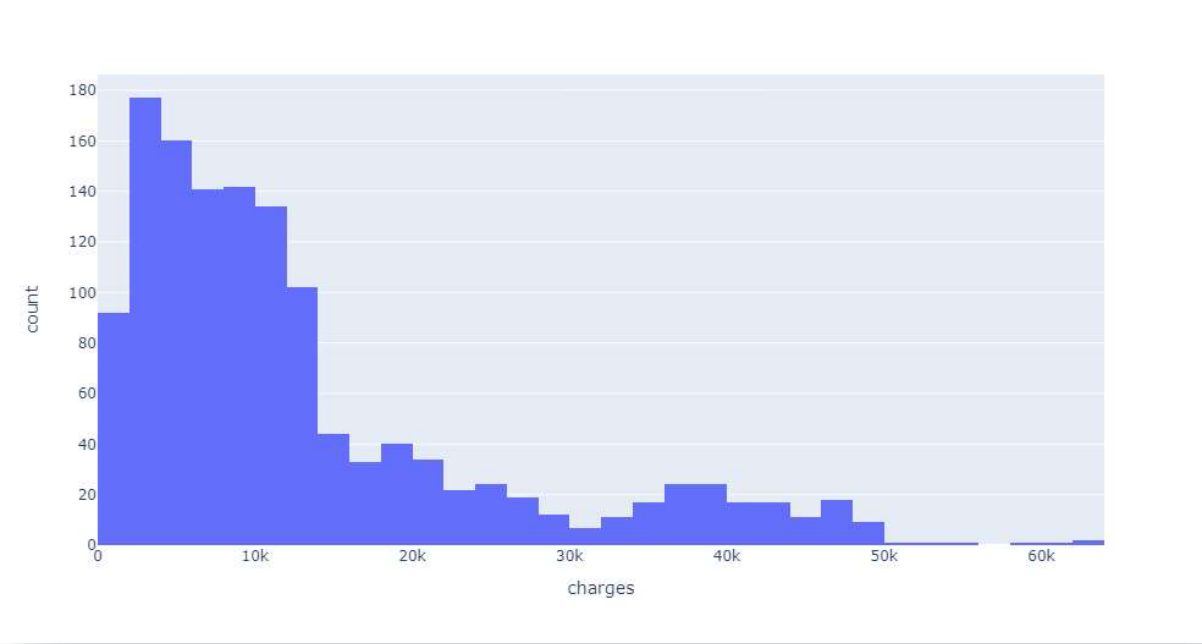
showing the count of females and males smokers and not smokers

```
px.histogram(data, x='sex' , text_auto=True ,color='smoker' ,barmode='group' , color_discrete_sequence =
px.colors.qualitative.Vivid)
```



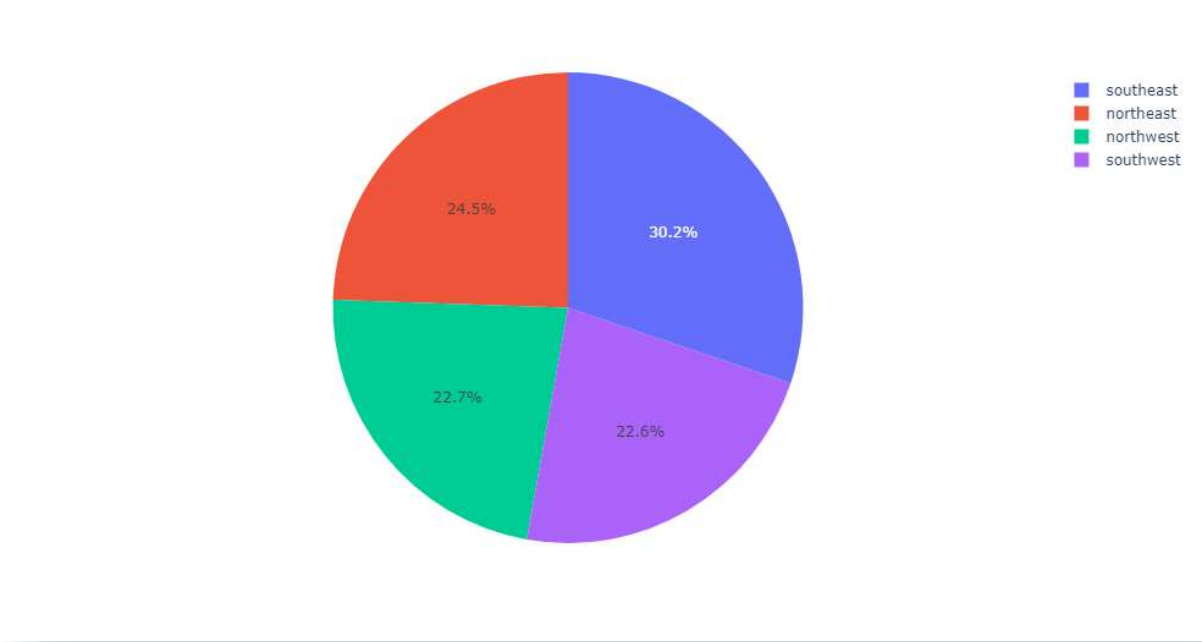
count of every charge

```
px.histogram(data, x='charges')
```



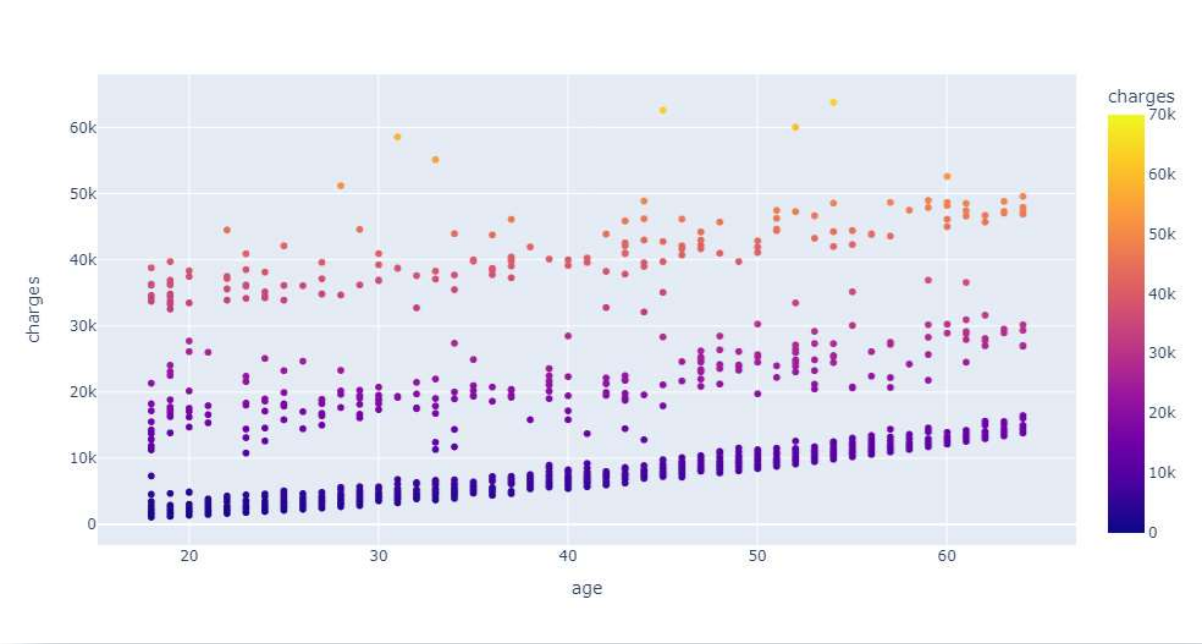
the charges in southeast > northeast > northwest > southwest

```
px.pie(values=data['charges'] , names=data['region'] )
```



showing a scatter to determine the charges due to different ages

```
px.scatter(data, x="age", y="charges", color="charges", range_color=[0,70000])
```


charges
60k
50k
40k
30k
20k
10k
0
20
30
40
50
60
age
charges
70k
60k
50k
40k
30k
20k
10k
0