Date 05-07-2021

Bar Charts Exercise

In [1]:
```
import pandas as pd
import numpy as np
import plotly.offline as pyo
import plotly.graph_objs as go
```

In [2]:
```
mock_survey_data = pd.read_csv("mocksurvey.csv")
mock_survey_data.set_index("Unnamed: 0", inplace=True)
mock_survey_data
```

Out[2]:

	Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree
Unnamed: 0					
Question 1	0.45	0.25	0.10	0.12	0.08
Question 2	0.12	0.07	0.48	0.18	0.15
Question 3	0.05	0.22	0.19	0.23	0.31

In [3]:
```
mock_survey_data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
Index: 3 entries, Question 1 to Question 3
Data columns (total 5 columns):
 #   Column             Non-Null Count  Dtype
---  ------             --------------  -----
 0   Strongly Agree     3 non-null      float64
 1   Somewhat Agree     3 non-null      float64
 2   Neutral            3 non-null      float64
 3   Somewhat Disagree  3 non-null      float64
 4   Strongly Disagree  3 non-null      float64
dtypes: float64(5)
memory usage: 144.0+ bytes
```

In [4]:
```
mock_survey_data.describe()
```

Out[4]:

	Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree
count	3.000000	3.000000	3.000000	3.000000	3.000000
mean	0.206667	0.180000	0.256667	0.176667	0.180000
std	0.213620	0.096437	0.198578	0.055076	0.117898
min	0.050000	0.070000	0.100000	0.120000	0.080000
25%	0.085000	0.145000	0.145000	0.150000	0.115000
50%	0.120000	0.220000	0.190000	0.180000	0.150000
75%	0.285000	0.235000	0.335000	0.205000	0.230000
max	0.450000	0.250000	0.480000	0.230000	0.310000

My First Solution Starts Here

In [5]:
```
cols = ["Strongly Agree", "Somewhat Agree", "Neutral", "Somewhat Disagree", "Strongly Disagree"]
cols
```

Out[5]:
```
['Strongly Agree',
 'Somewhat Agree',
 'Neutral',
 'Somewhat Disagree',
 'Strongly Disagree']
```

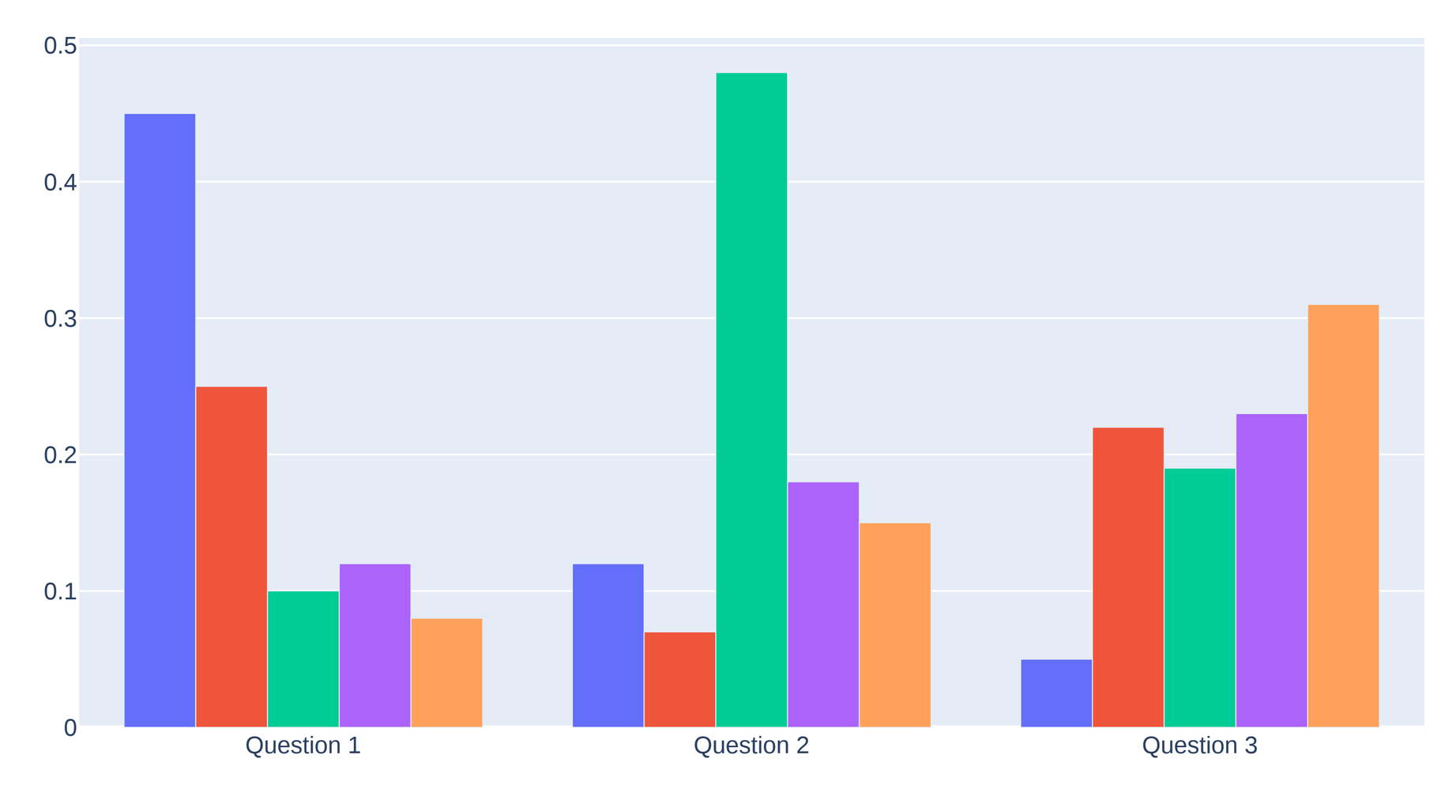
In [6]:
```
data = []
```

In [7]:
```
for col in cols:
    trace = go.Bar(x = mock_survey_data.index.values,
                   y = mock_survey_data[col],
                   name = col)
    data.append(trace)
```

In [8]:
```
layout = go.Layout(title = "Mock Survey Results(Vertical Bar Chart)")
```

In [9]:
```
fig = go.Figure(data, layout)
```

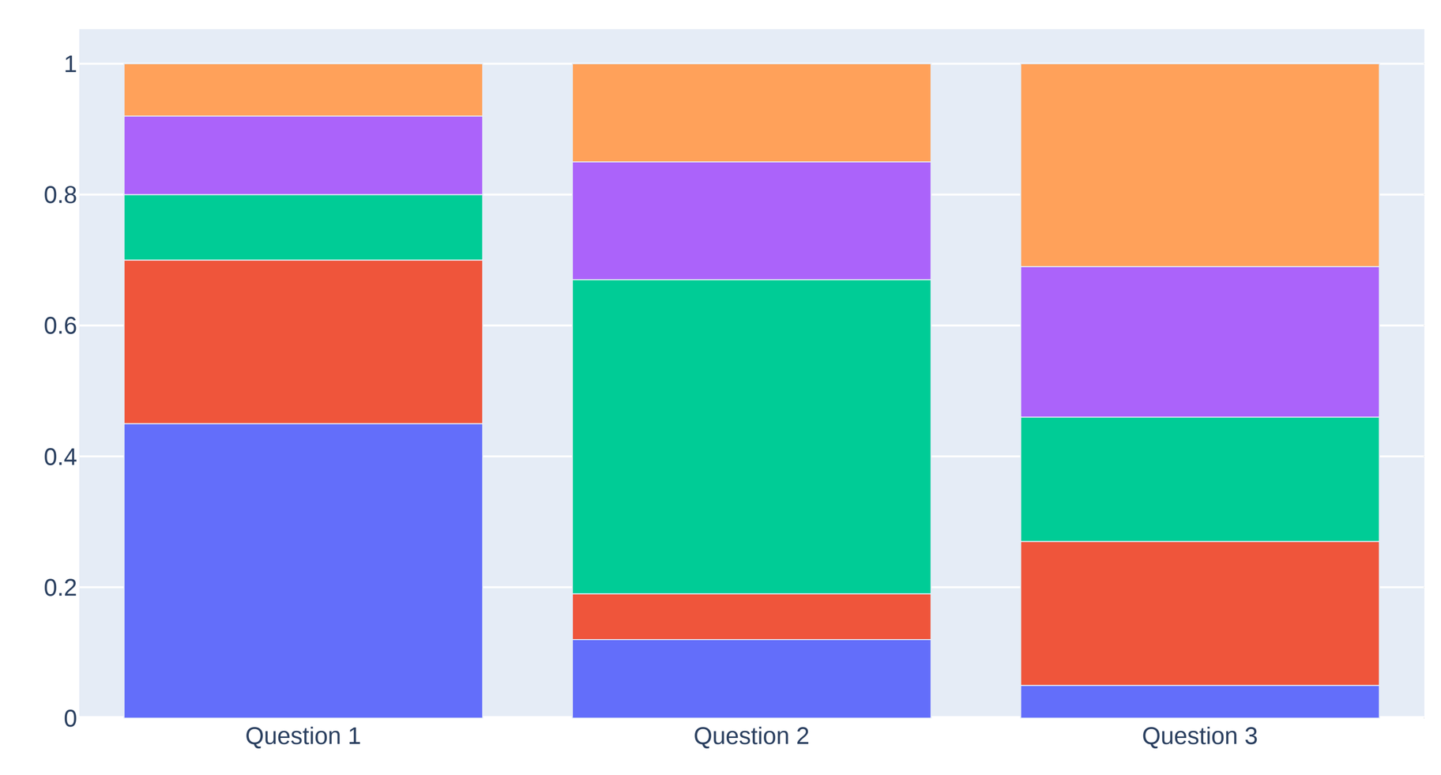
In [10]:
```
pyo.iplot(fig)
```



In [11]:
```
layout = go.Layout(title = "Mock Survey Results(Vertical Bar Chart)", barmode = "stack")
```

In [12]:
```
fig = go.Figure(data, layout)
```

In [13]:
```
pyo.iplot(fig)
```



In [14]:
```
pyo.plot(fig, filename="tutorial_8 (Bar Charts Exercise)[Part-1].html",
         image_width=1600,
         image_height=900,)
```

Out[14]: 'tutorial_8 (Bar Charts Exercise)[Part-1].html'

My Second Solution Starts Here

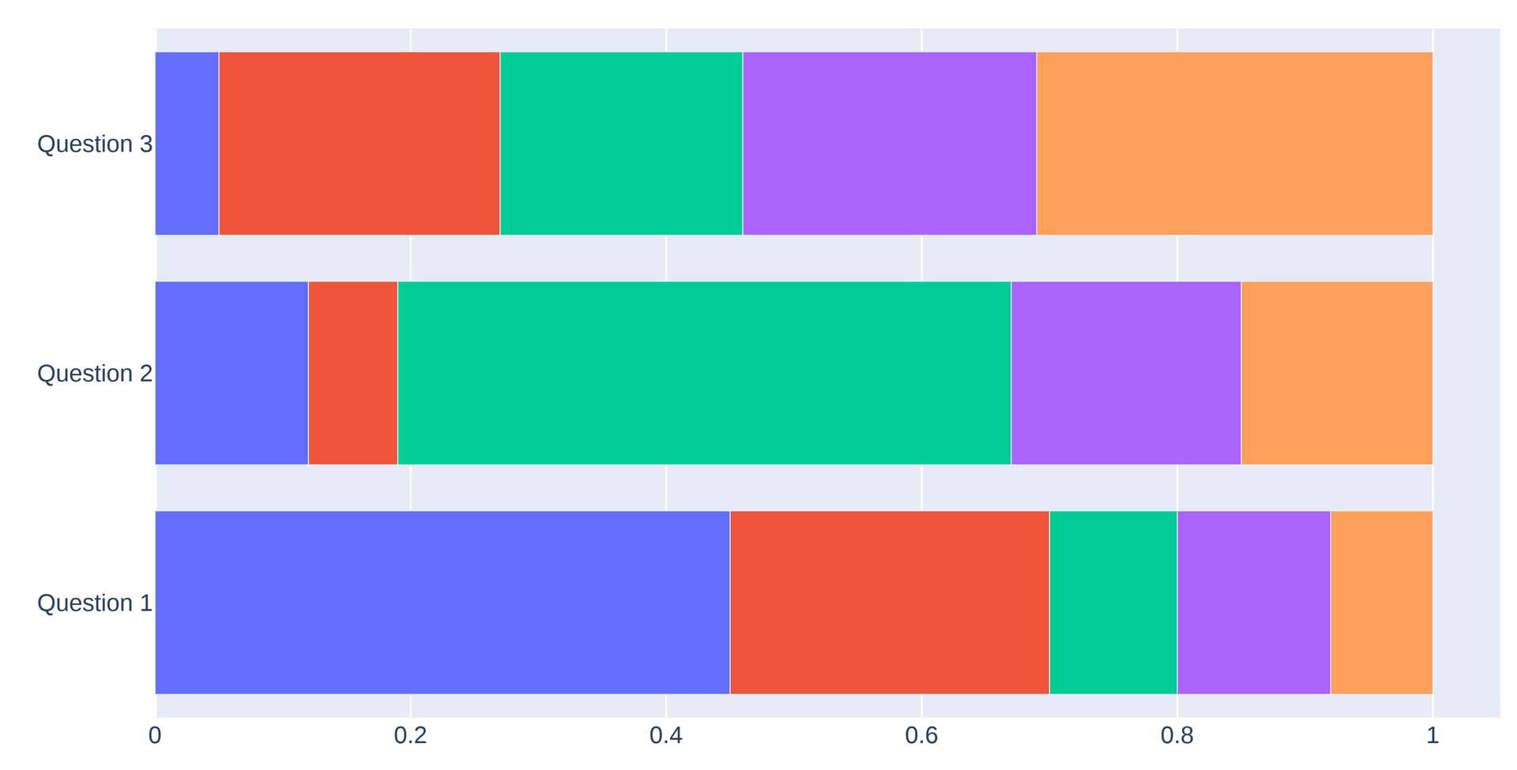
In [15]:
```
data = []
```

In [16]:
```
for col in cols:
    trace = go.Bar(y = mock_survey_data.index.values,
                   x = mock_survey_data[col],
                   name = col,
                   orientation='h')
    data.append(trace)
```

In [17]:
```
layout = go.Layout(title = "Mock Survey Results(Horizontal Bar Chart)", barmode = "stack")
```

In [18]:
```
fig = go.Figure(data, layout)
```

In [19]:
```
pyo.iplot(fig)
```

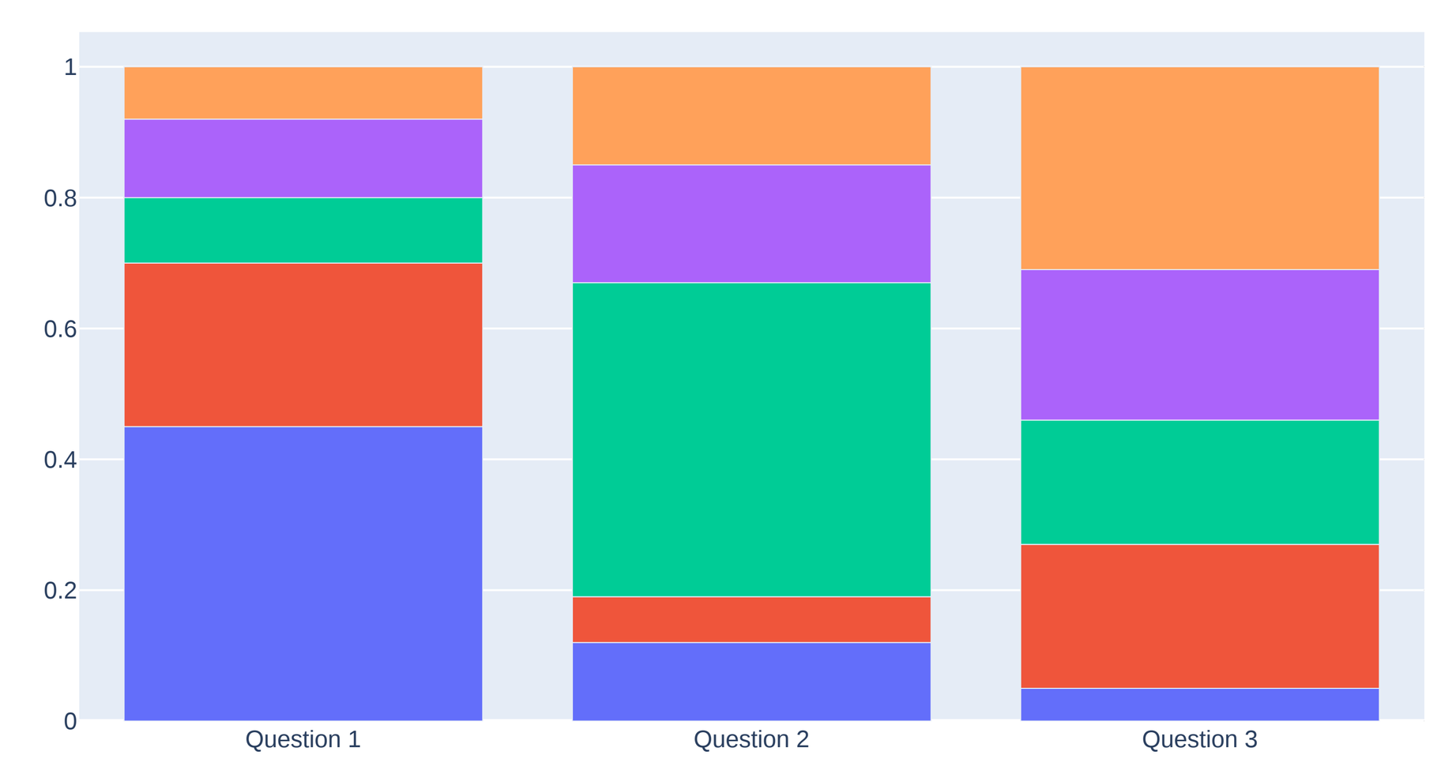


In [20]:
```
pyo.plot(fig, filename="tutorial_8 (Bar Charts Exercise)[Part-2].html",
         image_width=1600,
         image_height=900,)
```

Out[20]: 'tutorial_8 (Bar Charts Exercise)[Part-2].html'

Instructor's First Solution is Down

In [21]:
```
#######
# Objective: Create a stacked bar chart from
# the file ../data/mocksurvey.csv. Note that questions appear in
# the index (and should be used for the x-axis), while responses
# appear as column labels.  Extra Credit: make a horizontal bar chart!
######

# Perform imports here:
import plotly.offline as pyo
import plotly.graph_objs as go
import pandas as pd

# create a DataFrame from the .csv file:
df = pd.read_csv('mocksurvey.csv',index_col=0)

# create traces using a list comprehension:
data = [go.Bar(
    x = df.index,
    y = df[response],
    name=response
) for response in df.columns]

# create a layout, remember to set the barmode here
layout = go.Layout(
    title='Mock Survey Results',
    barmode='stack'
)

# create a fig from data & layout, and plot the fig
fig = go.Figure(data=data, layout=layout)

pyo.iplot(fig)
```



Instructor's Second Solution is Down

In [22]:
```
#######
# Objective: Create a stacked bar chart from
# the file ../data/mocksurvey.csv. Note that questions appear in
# the index (and should be used for the x-axis), while responses
# appear as column labels.  Extra Credit: make a horizontal bar chart!
######

# Perform imports here:
import plotly.offline as pyo
import plotly.graph_objs as go
import pandas as pd

# create a DataFrame from the .csv file:
df = pd.read_csv('mocksurvey.csv',index_col=0)

# create traces using a list comprehension:
data = [go.Bar(
    y = df.index,     # reverse your x- and y-axis assignments
    x = df[response],
    orientation='h',  # this line makes it horizontal!
    name=response
) for response in df.columns]

# create a layout, remember to set the barmode here
layout = go.Layout(
    title='Mock Survey Results',
    barmode='stack'
)

# create a fig from data & layout, and plot the fig.
fig = go.Figure(data=data, layout=layout)

pyo.iplot(fig)
```