Submission

Put the ipynb file and html file in the github branch you created in the last assignment and submit the link to the commit in brightspace

```
In [2]: 1 from plotly.offline import init_notebook_mode
    import plotly.io as pio
    import plotly.express as px

4    init_notebook_mode(connected=True)
    io.renderers.default = "plotly_mimetype+notebook"
```

Out[3]:

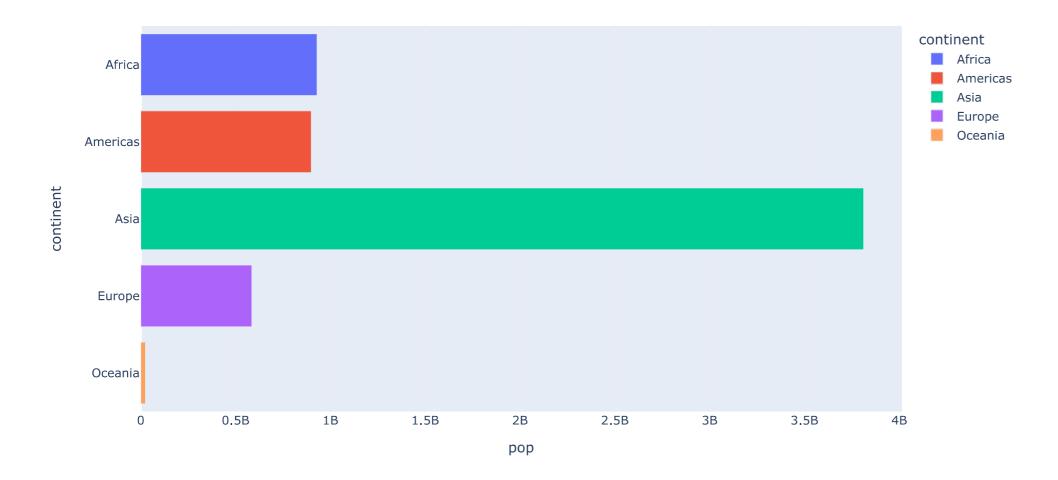
	country	continent	year	lifeExp	рор	gdpPercap	iso_alpha	iso_num
0	Afghanistan	Asia	1952	28.801	8425333	779.445314	AFG	4
1	Afghanistan	Asia	1957	30.332	9240934	820.853030	AFG	4
2	Afghanistan	Asia	1962	31.997	10267083	853.100710	AFG	4
3	Afghanistan	Asia	1967	34.020	11537966	836.197138	AFG	4
4	Afghanistan	Asia	1972	36.088	13079460	739.981106	AFG	4

Question 1:

Recreate the barplot below that shows the population of different continents for the year 2007.

Hints:

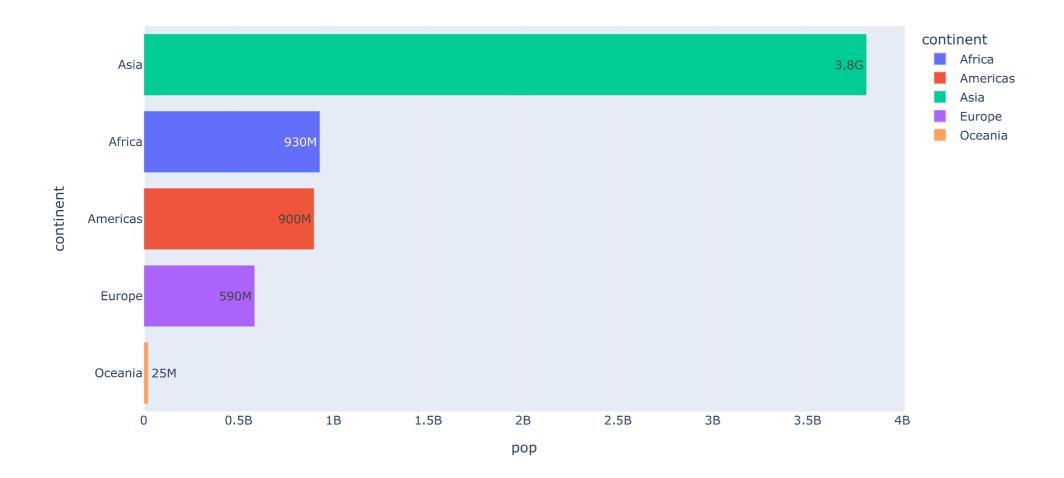
- Extract the 2007 year data from the dataframe. You have to process the data accordingly
- use plotly bar (https://plotly.com/python-api-reference/generated/plotly.express.bar)
- Add different colors for different continents
- Sort the order of the continent for the visualisation. Use axis layout setting (https://plotly.com/python/reference/layout/xaxis/)
- Add text to each bar that represents the population



Question 2:

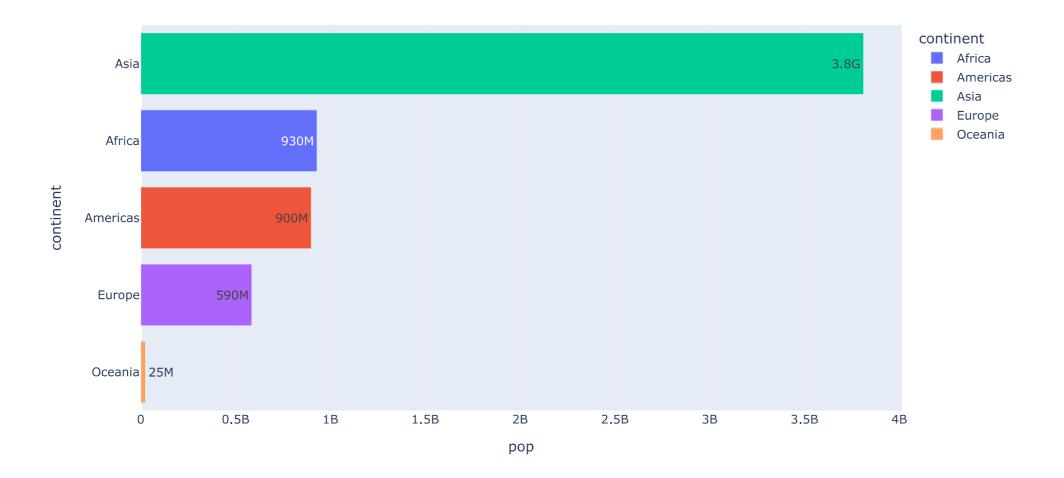
Sort the order of the continent for the visualisation

Hint: Use axis layout setting (https://plotly.com/python/reference/layout/xaxis/)



Question 3:

Add text to each bar that represents the population

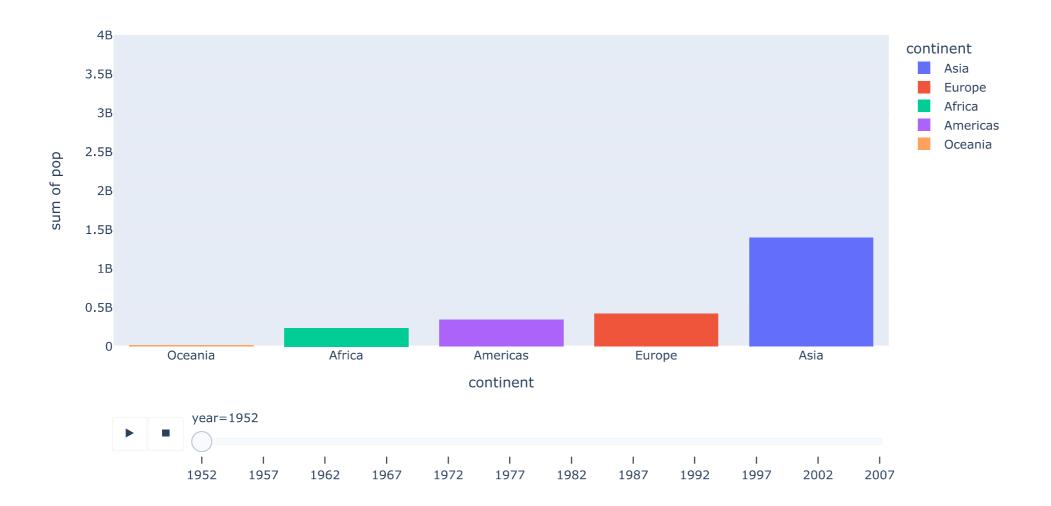


Question 4:

Thus far we looked at data from one year (2007). Lets create an animation to see the population growth of the continents through the years

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```
In [22]: 1 # YOUR CODE HERE
fig = px.histogram(df, y='pop', x='continent', animation_frame='year', color='continent', range_y=[0, 4*10**9])
fig.update_layout(xaxis={'categoryorder': 'total ascending'})
fig.show()
```



Question 5:

Instead of the continents, lets look at individual countries. Create an animation that shows the population growth of the countries through the years

localhost:8888/notebooks/Downloads/BenjaminLab8.ipynb#

```
In [58]:
              fig = px.histogram(df, x='pop', y='country', animation_frame='year', color='country', range_x=[0, 4*10**9], height=3000, text_auto=True)
              fig.updat@_layout(xaxis={'categoryorder': 'total ascending'})
              fig.show()3
                             Egypt 22.22331M
                                                                                                                  Egypt
                                                                                                                  El Salvador
                         El Salvador 2.042865M
                                                                                                                  Equatorial Guinea
                    Equatorial Guinea 216.964k
                                                                                                                     Eritrea
                             Eritrea 1.43876M
                                                                                                                      Ethiopia
                            Ethiopia 20.86094M
                                                                                                                     Finland
                            Finland 4.0905M
                                                                                                                     France
                             France 42.45967M
                                                                                                                      Gabon
                             Gabon 420.702k
                                                                                                                      Gambia
                            Gambia 284.32k
                                                                                                                      Germany
                           Germany 69.14595M
                                                                                                                      Ghana
                             Ghana 5.581001M
                                                                                                                      Greece
                            Greece 7.73325M
                                                                                                                     Guatemala
                         Guatemala 3.146381M
                                                                                                                      Guinea
                            Guinea 2.664249M
                                                                                                                      Guinea-Bissau
                       Guinea-Bissau 580.653k
                                                                                                                      Haiti
                              Haiti 3.201488M
                                                                                                                     Honduras
                          Honduras 1.517453M
                                                                                                                  Hong Kong China
```

Question 6:

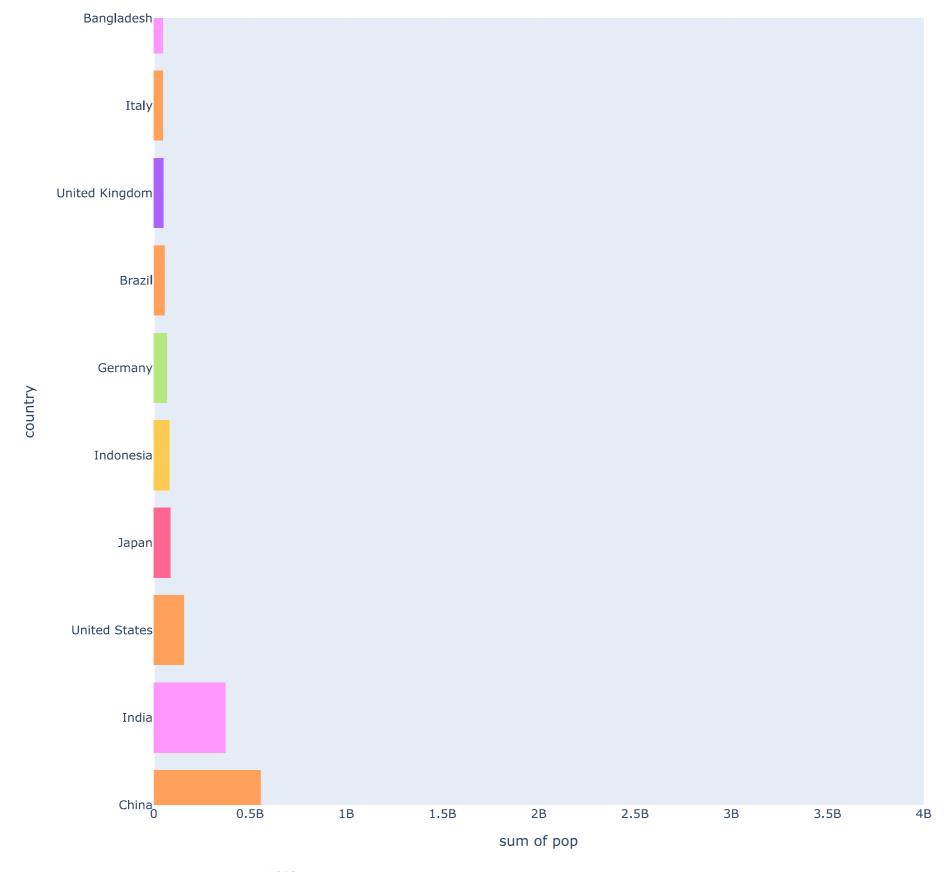
Clean up the country animation. Set the height size of the figure to 1000 to have a better view of the animation

```
In [90]:
           1 fig = px.histogram(df,
           2
                                  x='pop',
           3
                                 y='country',
           4
                                 animation_frame='year',
           5
                                 color='country',
                                 range_x=[0, 2*10**9],
           7
                                 height=1000,
           8
                                 text_auto=True
           9
          fig.update_layout(yaxis={'categoryorder': 'total ascending'})
          12 fig.show()
                           Malawi
                                                                                                                 Chile
                          Senegal
                                                                                                                    China
                           Guinea
                                                                                                                 Colombia
                 Dominican Republic
                                                                                                                     Comoros
                       Puerto Rico
                                                                                                                    Congo, Dem. Rep.
                        El Salvador
                                                                                                                     Congo, Rep.
                            Israel
                          Slovenia
                                                                                                                 Costa Rica
                          Jamaica
                                                                                                                    Cote d'Ivoire
                             Togo
                                                                                                                    Croatia
                West Bank and Gaza
                                                                                                                    Cuba
                          Panama
                                                                                                                    Czech Republic
                       Congo, Rep.
                                                                                                                    Denmark
                Trinidad and Tobago
                                                                                                                 Djibouti
                         Mauritius
                         Botswana
                                                                                                                    Dominican Republic
                         Swaziland
                                                                                                                     Ecuador
                  Equatorial Guinea
                                                                                                                 Egypt
                          Iceland
                                                                                                                 El Salvador
              Sao Tome and Principe
                                                  0 5B
                                                                      1B
                                                                                        1 5B
```

Question 7:

Show only the top 10 countries in the animation

Hint: Use the axis limit to set this.



year=1952

In []: 1