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

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

In [2]:
```
#load data
df = px.data.gapminder()
df.head()
```

Out[2]:

	country	continent	year	lifeExp	pop	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

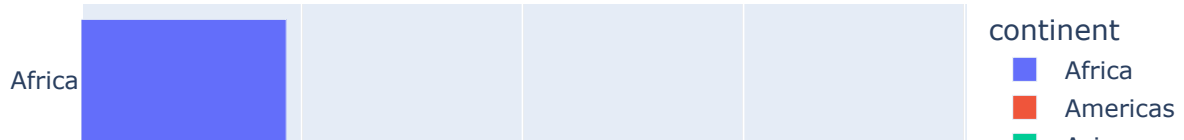
Question 1:

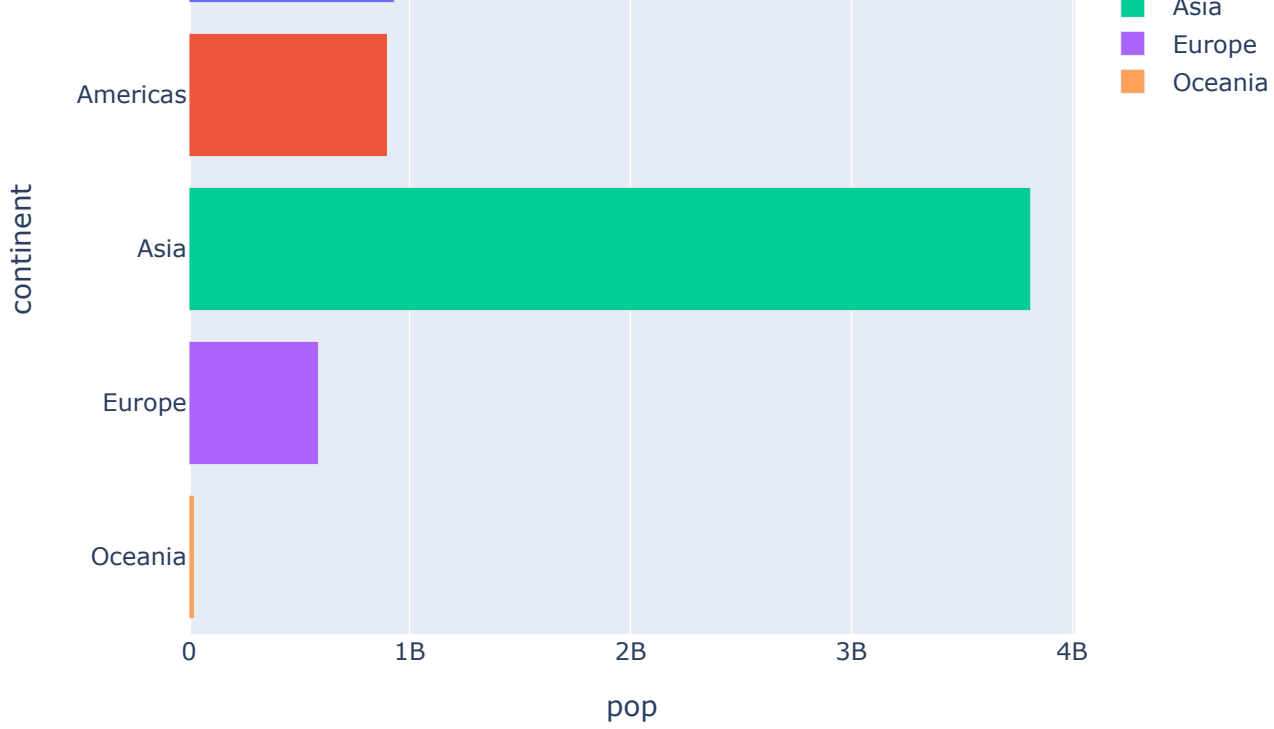
Recreate the barplot below that shows the population of different continents for the year 2007.

Hints:

- Extract the 2007 year data from the dataframe. You have to process the data accordingly
- use plotly bar
- Add different colors for different continents
- Sort the order of the continent for the visualisation. Use axis layout setting
- Add text to each bar that represents the population

In [3]:
```
seven = df[df["year"]==2007]
sev =seven.groupby(seven["continent"]).sum()
ves= sev.reset_index()
fig = px.bar(ves,y="continent", x="pop",color="continent")
fig.update
fig.show()
```



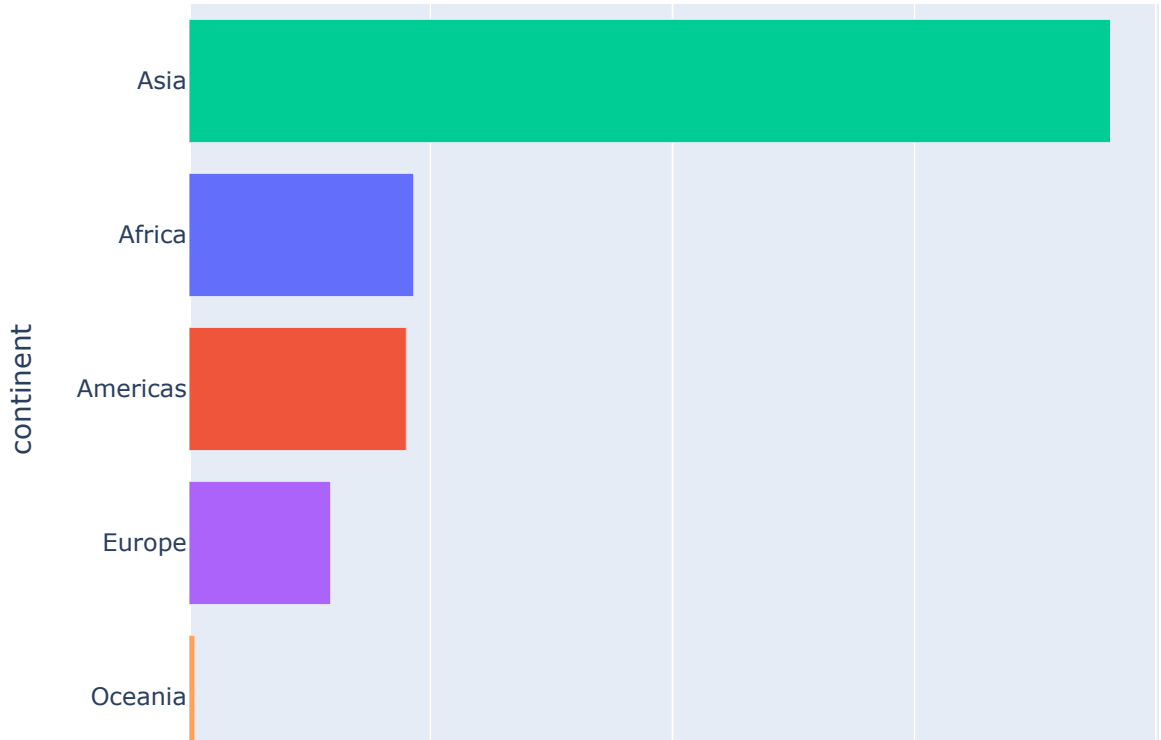


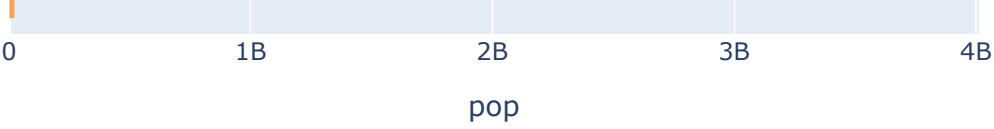
Question 2:

Sort the order of the continent for the visualisation

Hint: Use axis layout setting

In [4]:
```
fig = px.bar(ves,y="continent", x="pop",color="continent")
fig.update_yaxes(categoryorder="total ascending")
fig.update_layout(showlegend=False)
fig.show()
```

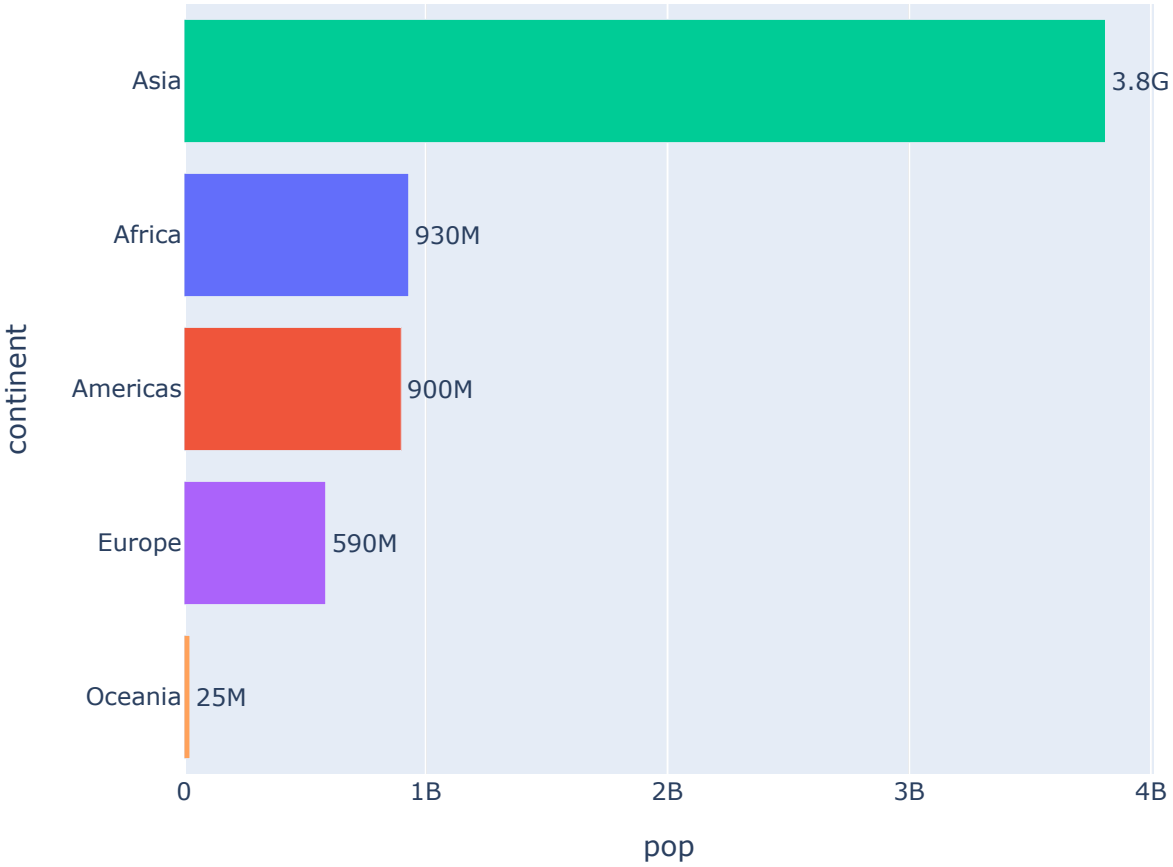




Question 3:

Add text to each bar that represents the population

In [5]:
```
fig = px.bar(ves,y="continent", x="pop",color="continent", text="pop", text_auto=".2s")
fig.update_traces(textposition="outside", cliponaxis=False)
fig.update_yaxes(categoryorder="total ascending")
fig.update_layout(showlegend=False)
fig.show()
```

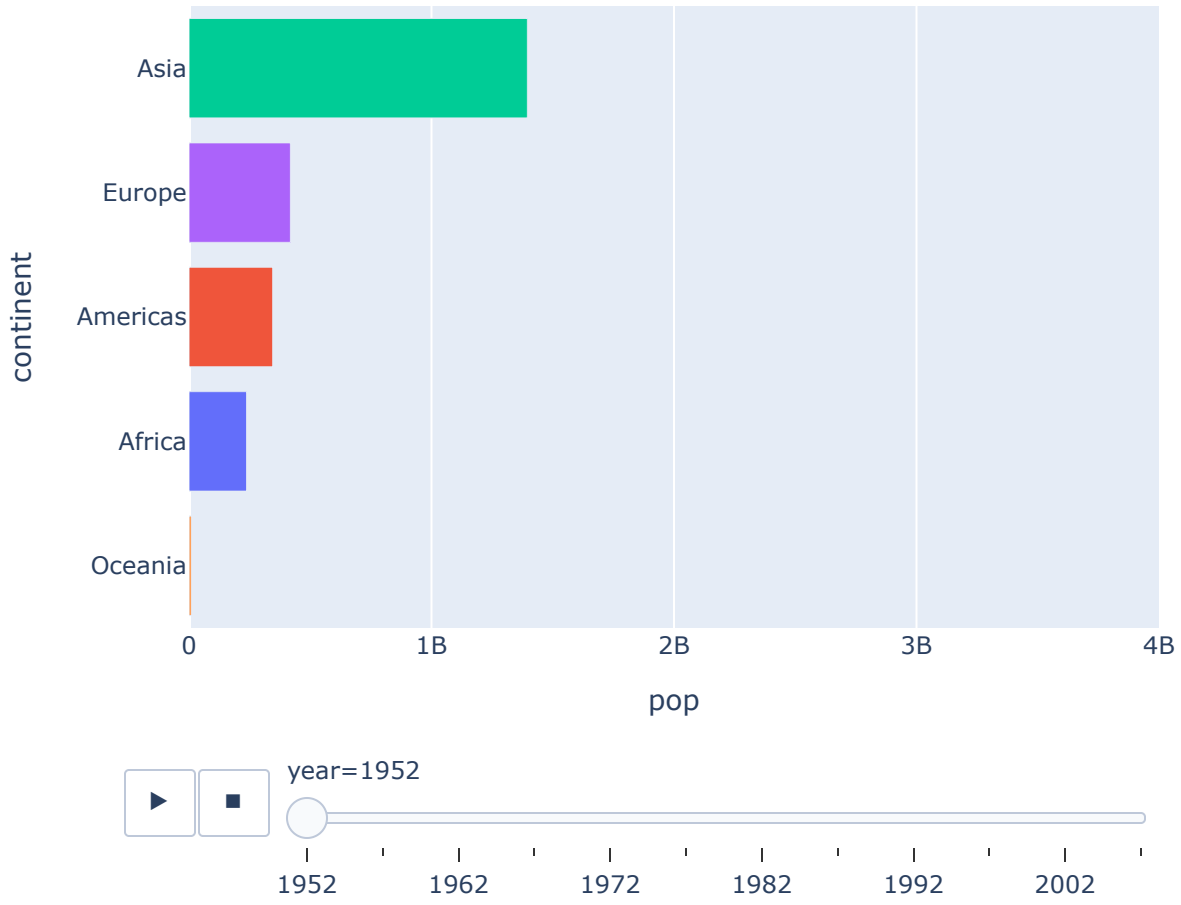


Question 4:

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

In [6]:
```
fd =df.groupby([df["continent"],df["year"]]).sum()
ddf= fd.reset_index()
fig = px.bar(ddf,y="continent", x="pop",animation_frame="year",animation_group="continen
fig.update_yaxes(categoryorder="total ascending")
fig.update_layout(showlegend=False)
```

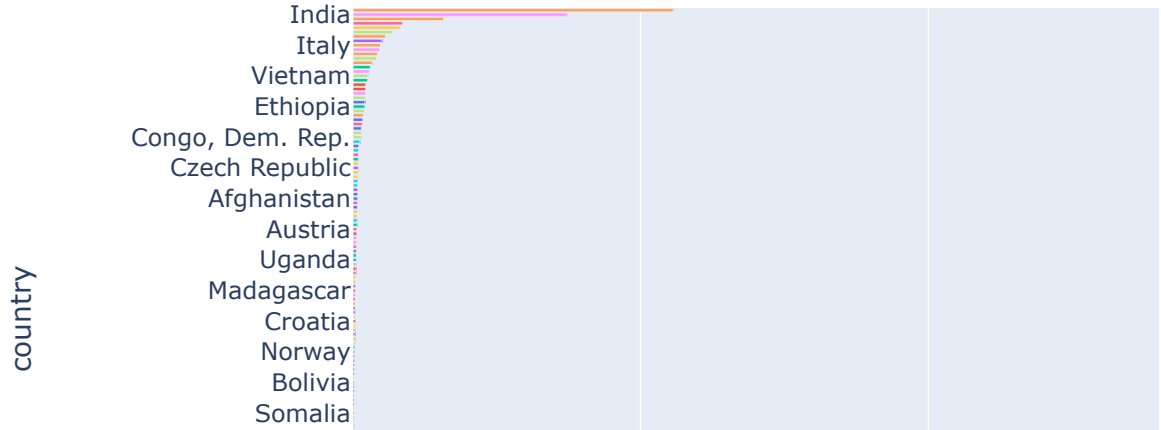
```
fig.show()
```

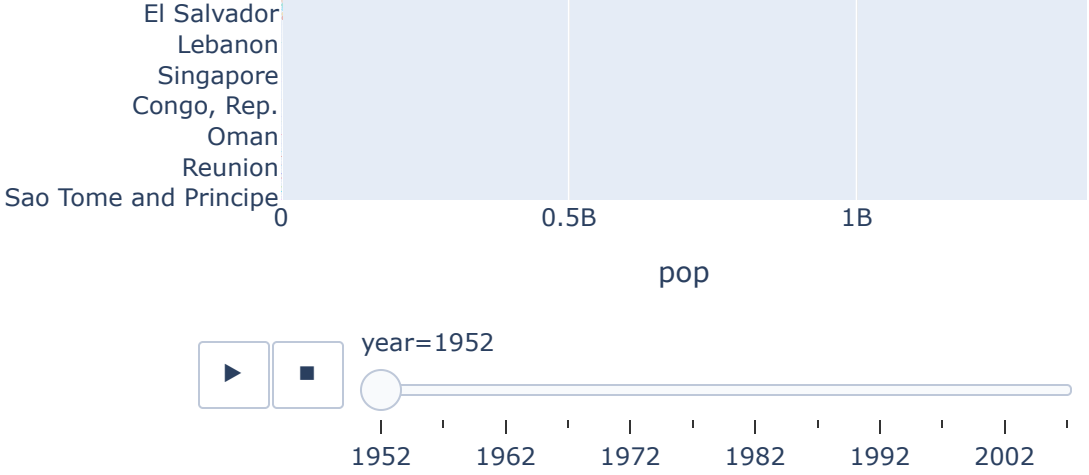


Question 5:

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

In [7]:
```
fig = px.bar(df,y="country", x="pop",animation_frame="year",animation_group="country",co
fig.update_yaxes(categoryorder="total ascending")
fig.update_layout(showlegend=False)
fig.show()
```

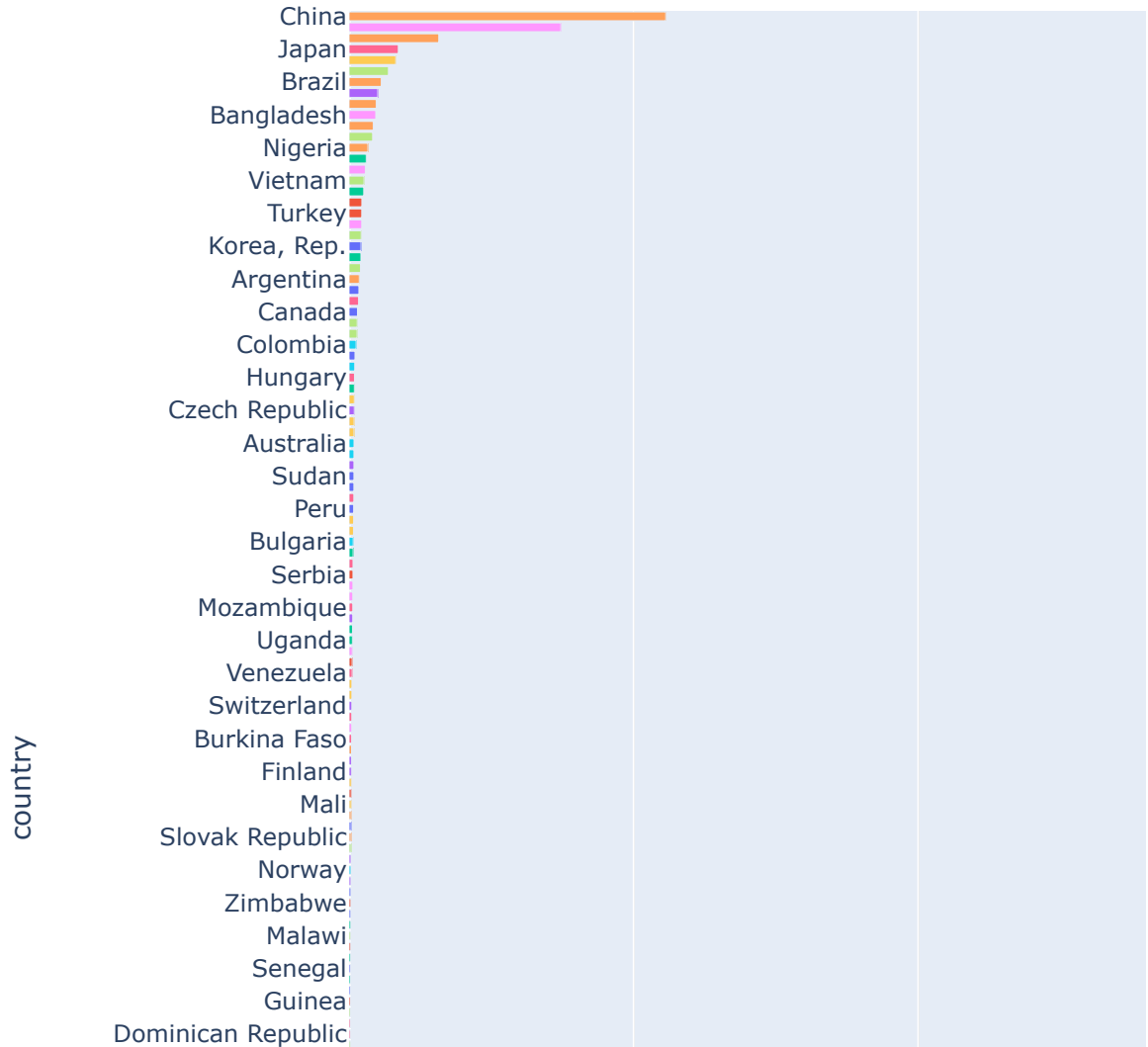


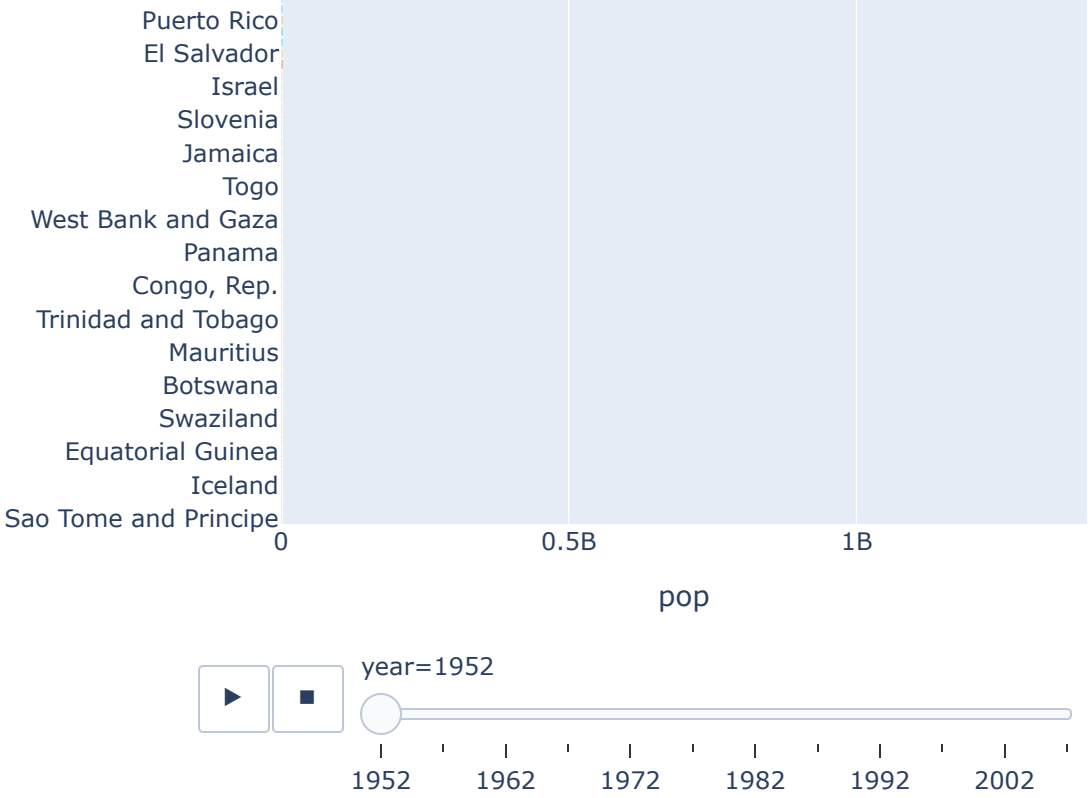


Question 6:

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

In [8]:
```
fig = px.bar(df,y="country", x="pop",animation_frame="year",animation_group="country",co
fig.update_yaxes(categoryorder="total ascending")
fig.update_layout(showlegend=False)
fig.show()
```



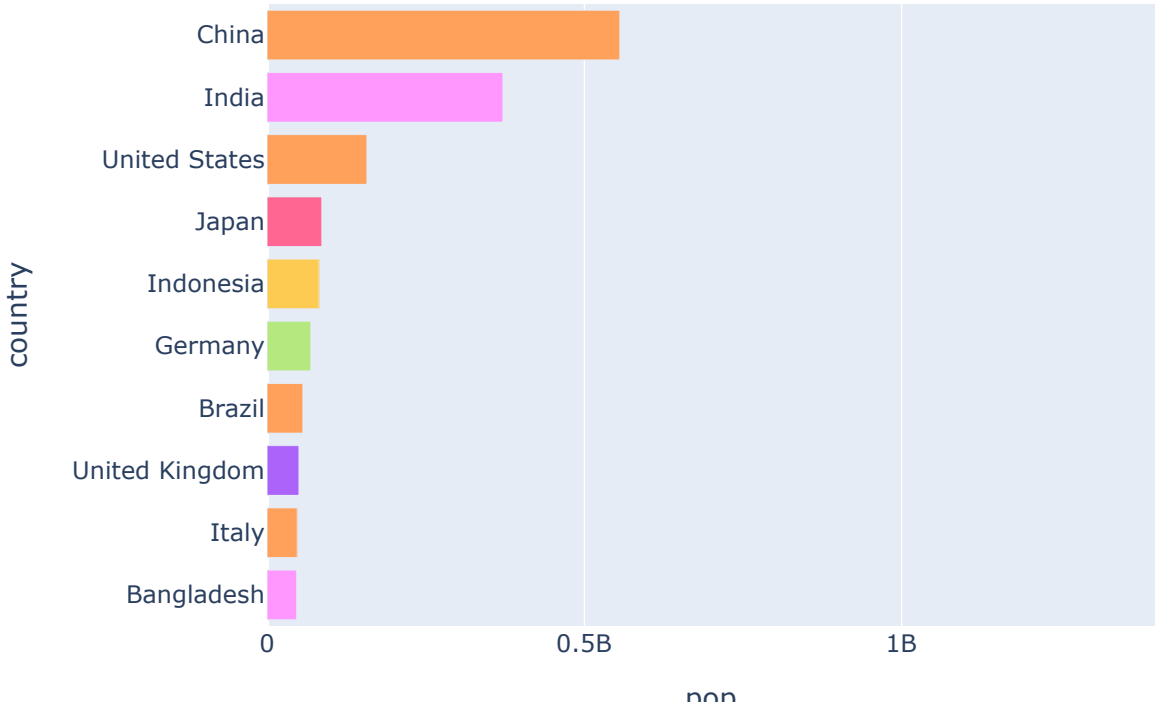


Question 7:

Show only the top 10 countries in the animation

Hint: Use the axis limit to set this.

In [9]:
```
fig = px.bar(df,y="country", x="pop",animation_frame="year",animation_group="country",co
fig.update_yaxes(categoryorder="total ascending")
fig.update_layout(showlegend=False)
fig.show()
```



pop

In [ ]: