

task-01

August 11, 2024

SOUMAJIT DEY

Create a bar chart or histogram to visualize the distribution of a categorical or continuous variable, such as the distribution of ages or genders in a population.

```
[ ]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

```
[ ]: df=pd.read_csv('/world_population.csv')
```

```
[ ]: df
```

```
[ ]:
      Rank CCA3 Country/Territory      Capital Continent \
0       36  AFG      Afghanistan      Kabul      Asia
1      138  ALB      Albania      Tirana      Europe
2       34  DZA      Algeria      Algiers      Africa
3      213  ASM      American Samoa      Pago Pago      Oceania
4      203  AND      Andorra      Andorra la Vella      Europe
..      ...  ...
229     226  WLF      Wallis and Futuna      Mata-Utu      Oceania
230     172  ESH      Western Sahara      El Aaiún      Africa
231      46  YEM      Yemen      Sanaa      Asia
232      63  ZMB      Zambia      Lusaka      Africa
233      74  ZWE      Zimbabwe      Harare      Africa

      2022 Population  2020 Population  2015 Population  2010 Population \
0           41128771           38972230           33753499           28189672
1           2842321           2866849           2882481           2913399
2           44903225           43451666           39543154           35856344
3             44273             46189             51368             54849
4             79824             77700             71746             71519
..              ...              ...              ...              ...
229             11572             11655             12182             13142
230             575986             556048             491824             413296
231            33696614            32284046            28516545            24743946
232            20017675            18927715            16248230            13792086
```

233	16320537	15669666	14154937	12839771
	2000 Population	1990 Population	1980 Population	1970 Population \
0	19542982	10694796	12486631	10752971
1	3182021	3295066	2941651	2324731
2	30774621	25518074	18739378	13795915
3	58230	47818	32886	27075
4	66097	53569	35611	19860
..
229	14723	13454	11315	9377
230	270375	178529	116775	76371
231	18628700	13375121	9204938	6843607
232	9891136	7686401	5720438	4281671
233	11834676	10113893	7049926	5202918
	Area (km ²)	Density (per km ²)	Growth Rate	World Population Percentage
0	652230	63.0587	1.0257	0.52
1	28748	98.8702	0.9957	0.04
2	2381741	18.8531	1.0164	0.56
3	199	222.4774	0.9831	0.00
4	468	170.5641	1.0100	0.00
..
229	142	81.4930	0.9953	0.00
230	266000	2.1654	1.0184	0.01
231	527968	63.8232	1.0217	0.42
232	752612	26.5976	1.0280	0.25
233	390757	41.7665	1.0204	0.20

[234 rows x 17 columns]

```
[ ]: df.head()
```

[]:	Rank	CCA3	Country/Territory	Capital	Continent	2022 Population \
0	36	AFG	Afghanistan	Kabul	Asia	41128771
1	138	ALB	Albania	Tirana	Europe	2842321
2	34	DZA	Algeria	Algiers	Africa	44903225
3	213	ASM	American Samoa	Pago Pago	Oceania	44273
4	203	AND	Andorra	Andorra la Vella	Europe	79824
	2020 Population	2015 Population	2010 Population	2000 Population \		
0	38972230	33753499	28189672	19542982		
1	2866849	2882481	2913399	3182021		
2	43451666	39543154	35856344	30774621		
3	46189	51368	54849	58230		
4	77700	71746	71519	66097		

1990 Population 1980 Population 1970 Population Area (km²) \

0	10694796	12486631	10752971	652230
1	3295066	2941651	2324731	28748
2	25518074	18739378	13795915	2381741
3	47818	32886	27075	199
4	53569	35611	19860	468

	Density (per km ²)	Growth Rate	World Population Percentage
0	63.0587	1.0257	0.52
1	98.8702	0.9957	0.04
2	18.8531	1.0164	0.56
3	222.4774	0.9831	0.00
4	170.5641	1.0100	0.00

```
[ ]: df.tail()
```

```
[ ]:
      Rank CCA3 Country/Territory Capital Continent 2022 Population \
229  226 WLF Wallis and Futuna Mata-Utu Oceania      11572
230  172 ESH  Western Sahara El Aaiún Africa      575986
231   46 YEM      Yemen Sanaa Asia      33696614
232   63 ZMB      Zambia Lusaka Africa      20017675
233   74 ZWE      Zimbabwe Harare Africa      16320537
```

	2020 Population	2015 Population	2010 Population	2000 Population	\
229	11655	12182	13142	14723	
230	556048	491824	413296	270375	
231	32284046	28516545	24743946	18628700	
232	18927715	16248230	13792086	9891136	
233	15669666	14154937	12839771	11834676	

	1990 Population	1980 Population	1970 Population	Area (km ²)	\
229	13454	11315	9377	142	
230	178529	116775	76371	266000	
231	13375121	9204938	6843607	527968	
232	7686401	5720438	4281671	752612	
233	10113893	7049926	5202918	390757	

	Density (per km ²)	Growth Rate	World Population Percentage
229	81.4930	0.9953	0.00
230	2.1654	1.0184	0.01
231	63.8232	1.0217	0.42
232	26.5976	1.0280	0.25
233	41.7665	1.0204	0.20

```
[ ]: df.shape
```

```
[ ]: (234, 17)
```

```
[ ]: df.columns
```

```
[ ]: Index(['Rank', 'CCA3', 'Country/Territory', 'Capital', 'Continent',  
         '2022 Population', '2020 Population', '2015 Population',  
         '2010 Population', '2000 Population', '1990 Population',  
         '1980 Population', '1970 Population', 'Area (km2)', 'Density (per km2)',  
         'Growth Rate', 'World Population Percentage'],  
         dtype='object')
```

```
[ ]: df.dtypes
```

```
[ ]: Rank                int64  
     CCA3                object  
     Country/Territory   object  
     Capital             object  
     Continent           object  
     2022 Population     int64  
     2020 Population     int64  
     2015 Population     int64  
     2010 Population     int64  
     2000 Population     int64  
     1990 Population     int64  
     1980 Population     int64  
     1970 Population     int64  
     Area (km2)         int64  
     Density (per km2)  float64  
     Growth Rate         float64  
     World Population Percentage float64  
     dtype: object
```

```
[ ]: df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
```

```
RangeIndex: 234 entries, 0 to 233
```

```
Data columns (total 17 columns):
```

#	Column	Non-Null Count	Dtype
0	Rank	234 non-null	int64
1	CCA3	234 non-null	object
2	Country/Territory	234 non-null	object
3	Capital	234 non-null	object
4	Continent	234 non-null	object
5	2022 Population	234 non-null	int64
6	2020 Population	234 non-null	int64
7	2015 Population	234 non-null	int64
8	2010 Population	234 non-null	int64
9	2000 Population	234 non-null	int64

```

10 1990 Population          234 non-null    int64
11 1980 Population          234 non-null    int64
12 1970 Population          234 non-null    int64
13 Area (km²)              234 non-null    int64
14 Density (per km²)       234 non-null    float64
15 Growth Rate             234 non-null    float64
16 World Population Percentage 234 non-null    float64
dtypes: float64(3), int64(10), object(4)
memory usage: 31.2+ KB

```

```
[ ]: df.describe()
```

```

[ ]:
      Rank  2022 Population  2020 Population  2015 Population \
count  234.000000      2.340000e+02      2.340000e+02      2.340000e+02
mean   117.500000      3.407441e+07      3.350107e+07      3.172996e+07
std     67.694165      1.367664e+08      1.355899e+08      1.304050e+08
min      1.000000      5.100000e+02      5.200000e+02      5.640000e+02
25%     59.250000      4.197385e+05      4.152845e+05      4.046760e+05
50%     117.500000      5.559944e+06      5.493074e+06      5.307400e+06
75%     175.750000      2.247650e+07      2.144798e+07      1.973085e+07
max     234.000000      1.425887e+09      1.424930e+09      1.393715e+09

      2010 Population  2000 Population  1990 Population  1980 Population \
count      2.340000e+02      2.340000e+02      2.340000e+02      2.340000e+02
mean      2.984524e+07      2.626947e+07      2.271022e+07      1.898462e+07
std       1.242185e+08      1.116982e+08      9.783217e+07      8.178519e+07
min       5.960000e+02      6.510000e+02      7.000000e+02      7.330000e+02
25%       3.931490e+05      3.272420e+05      2.641158e+05      2.296142e+05
50%       4.942770e+06      4.292907e+06      3.825410e+06      3.141146e+06
75%       1.915957e+07      1.576230e+07      1.186923e+07      9.826054e+06
max       1.348191e+09      1.264099e+09      1.153704e+09      9.823725e+08

      1970 Population  Area (km²)  Density (per km²)  Growth Rate \
count      2.340000e+02      2.340000e+02          234.000000      234.000000
mean      1.578691e+07      5.814494e+05          452.127044        1.009577
std       6.779509e+07      1.761841e+06          2066.121904        0.013385
min       7.520000e+02      1.000000e+00           0.026100        0.912000
25%       1.559970e+05      2.650000e+03           38.417875        1.001775
50%       2.604830e+06      8.119950e+04           95.346750        1.007900
75%       8.817329e+06      4.304258e+05          238.933250        1.016950
max       8.225344e+08      1.709824e+07          23172.266700        1.069100

      World Population Percentage
count                        234.000000
mean                         0.427051
std                          1.714977
min                          0.000000

```

```

25%          0.010000
50%          0.070000
75%          0.280000
max          17.880000

```

```
[ ]: df.duplicated().sum()
```

```
[ ]: 0
```

```
[ ]: df.isna().sum().any()
```

```
[ ]: False
```

```
[ ]: df= df.fillna(method = "ffill")
df.head()
```

```
[ ]:
Rank Country/Territory  2022 Population  2020 Population  2015 Population \
0    36      Afghanistan      41128771      38972230      33753499
1   138        Albania      2842321      2866849      2882481
2    34        Algeria      44903225      43451666      39543154
3   213  American Samoa      44273      46189      51368
4   203        Andorra      79824      77700      71746
```

```

2010 Population  2000 Population  1990 Population  1980 Population \
0      28189672      19542982      10694796      12486631
1      2913399      3182021      3295066      2941651
2     35856344     30774621     25518074     18739378
3       54849       58230       47818       32886
4       71519       66097       53569       35611
```

```

1970 Population  Area (km²)  Density (per km²)  Growth Rate \
0      10752971      652230      63.0587      1.0257
1      2324731      28748      98.8702      0.9957
2     13795915     2381741      18.8531      1.0164
3       27075       199      222.4774      0.9831
4       19860       468      170.5641      1.0100
```

```

World Population Percentage
0          0.52
1          0.04
2          0.56
3          0.00
4          0.00
```

```
[ ]:
```

```
[ ]: df.isna().sum().any()
```

```
[ ]: False
```

```
[ ]: df['Rank'].unique()
```

```
[ ]: array([ 36, 138, 34, 213, 203, 42, 224, 201, 33, 140, 198, 55, 99,
          91, 176, 154, 8, 186, 96, 81, 177, 77, 206, 165, 80, 137,
          144, 7, 221, 175, 108, 58, 78, 73, 53, 39, 171, 205, 117,
          69, 65, 1, 28, 163, 223, 124, 130, 85, 189, 158, 88, 115,
          160, 204, 84, 15, 67, 14, 112, 152, 132, 156, 159, 12, 231,
          209, 162, 118, 23, 184, 183, 146, 142, 131, 19, 47, 219, 90,
          208, 193, 178, 191, 68, 207, 75, 149, 164, 82, 89, 104, 94,
          179, 2, 4, 17, 35, 125, 202, 98, 25, 52, 139, 11, 195,
          83, 66, 27, 192, 129, 110, 103, 151, 119, 147, 121, 107, 216,
          141, 168, 167, 50, 62, 45, 174, 59, 173, 215, 180, 126, 157,
          182, 10, 194, 135, 217, 134, 169, 230, 40, 48, 26, 145, 225,
          49, 71, 185, 123, 106, 54, 6, 232, 56, 150, 210, 120, 127,
          5, 222, 122, 128, 93, 109, 44, 13, 37, 92, 136, 143, 114,
          161, 64, 9, 76, 228, 211, 190, 220, 229, 199, 188, 218, 187,
          41, 72, 105, 196, 102, 113, 214, 116, 148, 166, 70, 24, 29,
          86, 30, 61, 32, 170, 87, 101, 60, 57, 95, 22, 20, 155,
          100, 233, 197, 153, 79, 18, 111, 212, 227, 31, 38, 97, 21,
          3, 200, 133, 43, 181, 234, 51, 16, 226, 172, 46, 63, 74])
```

```
[ ]: df['Capital'].unique()
```

```
[ ]: array(['Kabul', 'Tirana', 'Algiers', 'Pago Pago', 'Andorra la Vella',
          'Luanda', 'The Valley', 'Saint John's', 'Buenos Aires', 'Yerevan',
          'Oranjestad', 'Canberra', 'Vienna', 'Baku', 'Nassau', 'Manama',
          'Dhaka', 'Bridgetown', 'Minsk', 'Brussels', 'Belmopan',
          'Porto-Novo', 'Hamilton', 'Thimphu', 'Sucre', 'Sarajevo',
          'Gaborone', 'Brasilia', 'Road Town', 'Bandar Seri Begawan',
          'Sofia', 'Ouagadougou', 'Bujumbura', 'Phnom Penh', 'Yaounde',
          'Ottawa', 'Praia', 'George Town', 'Bangui', 'N'Djamena',
          'Santiago', 'Beijing', 'Bogota', 'Moroni', 'Avarua', 'San José',
          'Zagreb', 'Havana', 'Willemstad', 'Nicosia', 'Prague',
          'Copenhagen', 'Djibouti', 'Roseau', 'Santo Domingo', 'Kinshasa',
          'Quito', 'Cairo', 'San Salvador', 'Malabo', 'Asmara', 'Tallinn',
          'Mbabane', 'Addis Ababa', 'Stanley', 'Tórshavn', 'Suva',
          'Helsinki', 'Paris', 'Cayenne', 'Papeete', 'Libreville', 'Banjul',
          'Tbilisi', 'Berlin', 'Accra', 'Gibraltar', 'Athens', 'Nuuk',
          'Saint George's', 'Basse-Terre', 'Hagåtña', 'Guatemala City',
          'Saint Peter Port', 'Conakry', 'Bissau', 'Georgetown',
          'Port-au-Prince', 'Tegucigalpa', 'Hong Kong', 'Budapest',
          'Reykjavík', 'New Delhi', 'Jakarta', 'Tehran', 'Baghdad', 'Dublin',
          'Douglas', 'Jerusalem', 'Rome', 'Yamoussoukro', 'Kingston',
          'Tokyo', 'Saint Helier', 'Amman', 'Nursultan', 'Nairobi', 'Tarawa',
          'Kuwait City', 'Bishkek', 'Vientiane', 'Riga', 'Beirut', 'Maseru',
```

```
'Monrovia', 'Tripoli', 'Vaduz', 'Vilnius', 'Luxembourg',
'Concelho de Macau', 'Antananarivo', 'Lilongwe', 'Kuala Lumpur',
'Malé', 'Bamako', 'Valletta', 'Majuro', 'Fort-de-France',
'Nouakchott', 'Port Louis', 'Mamoudzou', 'Mexico City', 'Palikir',
'Chisinau', 'Monaco', 'Ulaanbaatar', 'Podgorica', 'Brades',
'Rabat', 'Maputo', 'Nay Pyi Taw', 'Windhoek', 'Yaren', 'Kathmandu',
'Amsterdam', 'Nouméa', 'Wellington', 'Managua', 'Niamey', 'Abuja',
'Alofi', 'Pyongyang', 'Skopje', 'Saipan', 'Oslo', 'Muscat',
'Islamabad', 'Ngerulmud', 'Ramallah', 'Panama City',
'Port Moresby', 'Asunción', 'Lima', 'Manila', 'Warsaw', 'Lisbon',
'San Juan', 'Doha', 'Brazzaville', 'Saint-Denis', 'Bucharest',
'Moscow', 'Kigali', 'Gustavia', 'Basseterre', 'Castries',
'Marigot', 'Saint-Pierre', 'Kingstown', 'Apia', 'San Marino',
'São Tomé', 'Riyadh', 'Dakar', 'Belgrade', 'Victoria', 'Freetown',
'Singapore', 'Philipsburg', 'Bratislava', 'Ljubljana', 'Honiara',
'Mogadishu', 'Pretoria', 'Seoul', 'Juba', 'Madrid', 'Colombo',
'Khartoum', 'Paramaribo', 'Stockholm', 'Bern', 'Damascus',
'Taipei', 'Dushanbe', 'Dodoma', 'Bangkok', 'Dili', 'Lomé',
'Nukunonu', 'Nuku'alofa', 'Port-of-Spain', 'Tunis', 'Ankara',
'Ashgabat', 'Cockburn Town', 'Funafuti', 'Kampala', 'Kiev',
'Abu Dhabi', 'London', 'Washington, D.C.', 'Charlotte Amalie',
'Montevideo', 'Tashkent', 'Port-Vila', 'Vatican City', 'Caracas',
'Hanoi', 'Mata-Utu', 'El Aaiún', 'Sanaa', 'Lusaka', 'Harare'],
dtype=object)
```

```
[ ]: df['Country/Territory'].unique()
```

```
[ ]: array(['Afghanistan', 'Albania', 'Algeria', 'American Samoa', 'Andorra',
'Angola', 'Anguilla', 'Antigua and Barbuda', 'Argentina',
'Armenia', 'Aruba', 'Australia', 'Austria', 'Azerbaijan',
'Bahamas', 'Bahrain', 'Bangladesh', 'Barbados', 'Belarus',
'Belgium', 'Belize', 'Benin', 'Bermuda', 'Bhutan', 'Bolivia',
'Bosnia and Herzegovina', 'Botswana', 'Brazil',
'British Virgin Islands', 'Brunei', 'Bulgaria', 'Burkina Faso',
'Burundi', 'Cambodia', 'Cameroon', 'Canada', 'Cape Verde',
'Cayman Islands', 'Central African Republic', 'Chad', 'Chile',
'China', 'Colombia', 'Comoros', 'Cook Islands', 'Costa Rica',
'Croatia', 'Cuba', 'Curacao', 'Cyprus', 'Czech Republic',
'Denmark', 'Djibouti', 'Dominica', 'Dominican Republic',
'DR Congo', 'Ecuador', 'Egypt', 'El Salvador', 'Equatorial Guinea',
'Eritrea', 'Estonia', 'Eswatini', 'Ethiopia', 'Falkland Islands',
'Faroe Islands', 'Fiji', 'Finland', 'France', 'French Guiana',
'French Polynesia', 'Gabon', 'Gambia', 'Georgia', 'Germany',
'Ghana', 'Gibraltar', 'Greece', 'Greenland', 'Grenada',
'Guadeloupe', 'Guam', 'Guatemala', 'Guernsey', 'Guinea',
'Guinea-Bissau', 'Guyana', 'Haiti', 'Honduras', 'Hong Kong',
'Hungary', 'Iceland', 'India', 'Indonesia', 'Iran', 'Iraq',
```



```
'Ireland', 'Isle of Man', 'Israel', 'Italy', 'Ivory Coast',
'Jamaica', 'Japan', 'Jersey', 'Jordan', 'Kazakhstan', 'Kenya',
'Kiribati', 'Kuwait', 'Kyrgyzstan', 'Laos', 'Latvia', 'Lebanon',
'Lesotho', 'Liberia', 'Libya', 'Liechtenstein', 'Lithuania',
'Luxembourg', 'Macau', 'Madagascar', 'Malawi', 'Malaysia',
'Maldives', 'Mali', 'Malta', 'Marshall Islands', 'Martinique',
'Mauritania', 'Mauritius', 'Mayotte', 'Mexico', 'Micronesia',
'Moldova', 'Monaco', 'Mongolia', 'Montenegro', 'Montserrat',
'Morocco', 'Mozambique', 'Myanmar', 'Namibia', 'Nauru', 'Nepal',
'Netherlands', 'New Caledonia', 'New Zealand', 'Nicaragua',
'Niger', 'Nigeria', 'Niue', 'North Korea', 'North Macedonia',
'Northern Mariana Islands', 'Norway', 'Oman', 'Pakistan', 'Palau',
'Palestine', 'Panama', 'Papua New Guinea', 'Paraguay', 'Peru',
'Philippines', 'Poland', 'Portugal', 'Puerto Rico', 'Qatar',
'Republic of the Congo', 'Reunion', 'Romania', 'Russia', 'Rwanda',
'Saint Barthelemy', 'Saint Kitts and Nevis', 'Saint Lucia',
'Saint Martin', 'Saint Pierre and Miquelon',
'Saint Vincent and the Grenadines', 'Samoa', 'San Marino',
'Sao Tome and Principe', 'Saudi Arabia', 'Senegal', 'Serbia',
'Seychelles', 'Sierra Leone', 'Singapore', 'Sint Maarten',
'Slovakia', 'Slovenia', 'Solomon Islands', 'Somalia',
'South Africa', 'South Korea', 'South Sudan', 'Spain', 'Sri Lanka',
'Sudan', 'Suriname', 'Sweden', 'Switzerland', 'Syria', 'Taiwan',
'Tajikistan', 'Tanzania', 'Thailand', 'Timor-Leste', 'Togo',
'Tokelau', 'Tonga', 'Trinidad and Tobago', 'Tunisia', 'Turkey',
'Turkmenistan', 'Turks and Caicos Islands', 'Tuvalu', 'Uganda',
'Ukraine', 'United Arab Emirates', 'United Kingdom',
'United States', 'United States Virgin Islands', 'Uruguay',
'Uzbekistan', 'Vanuatu', 'Vatican City', 'Venezuela', 'Vietnam',
'Wallis and Futuna', 'Western Sahara', 'Yemen', 'Zambia',
'Zimbabwe'], dtype=object)
```

```
[ ]: df['Continent'].unique()
```

```
[ ]: array(['Asia', 'Europe', 'Africa', 'Oceania', 'North America',
'South America'], dtype=object)
```

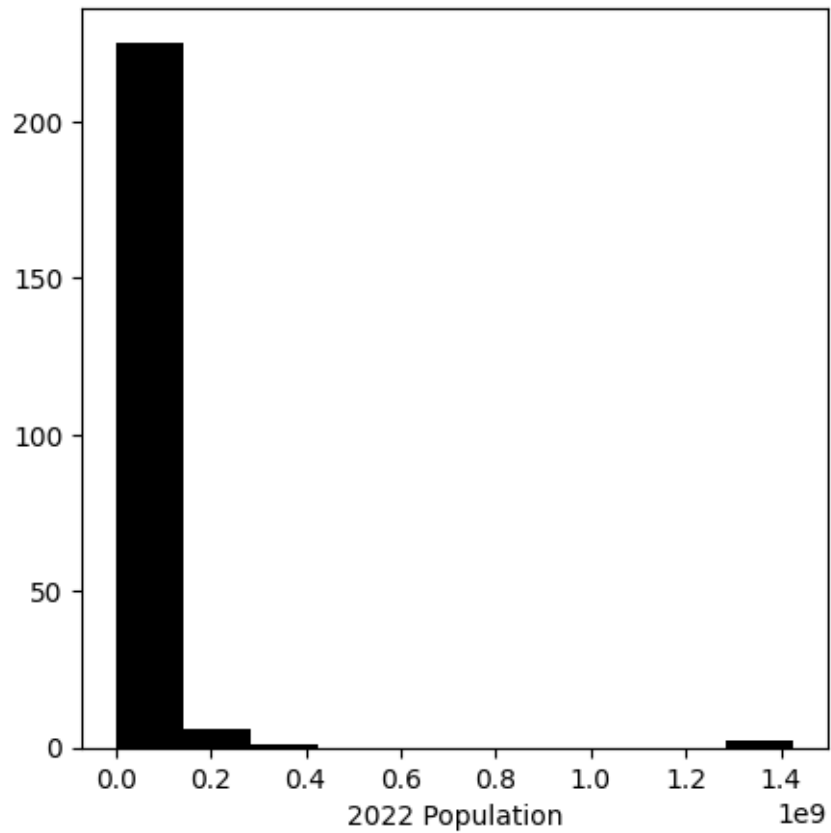
```
[ ]: df.drop(['Rank'],axis=1,inplace=True)
```

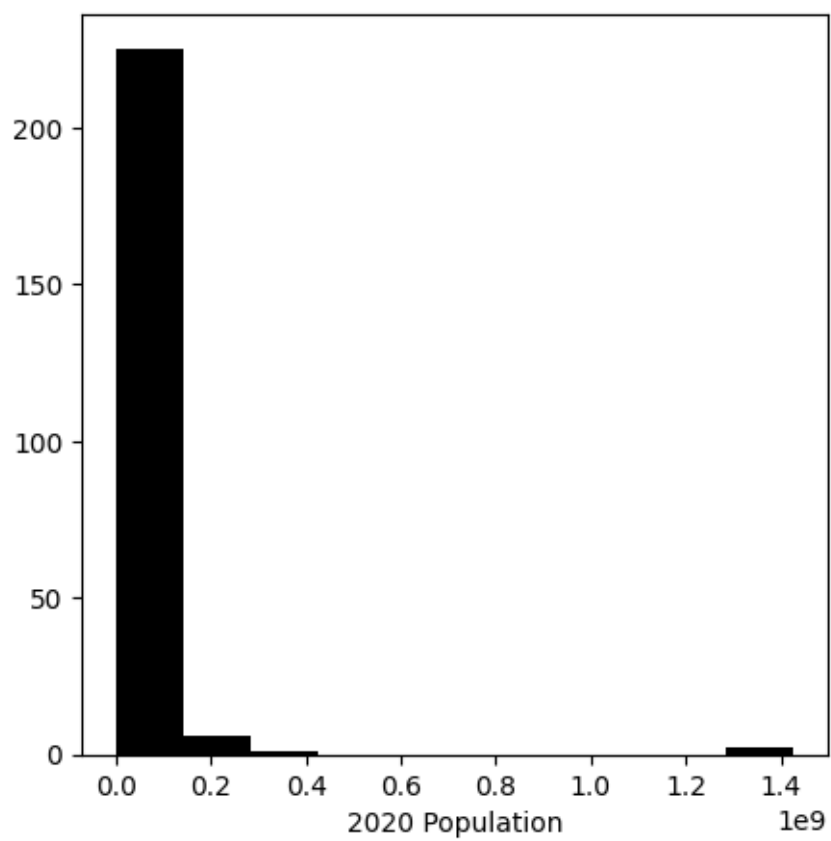
```
[ ]: df.columns
```

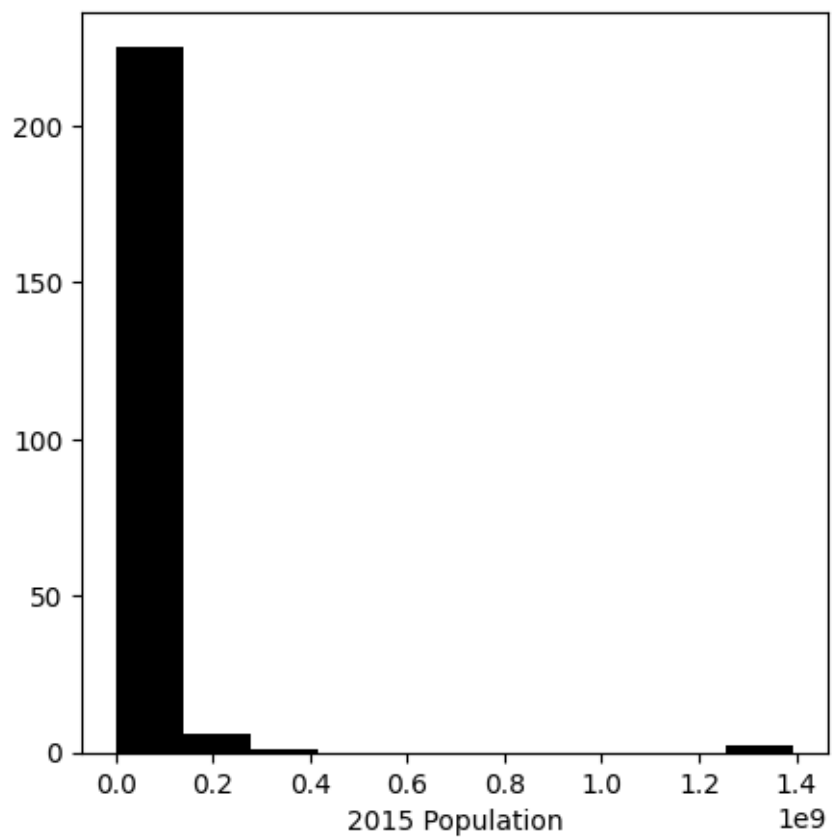
```
[ ]: Index(['Country/Territory', '2022 Population', '2020 Population',
'2015 Population', '2010 Population', '2000 Population',
'1990 Population', '1980 Population', '1970 Population', 'Area (km2)',
'Density (per km2)', 'Growth Rate', 'World Population Percentage'],
dtype='object')
```

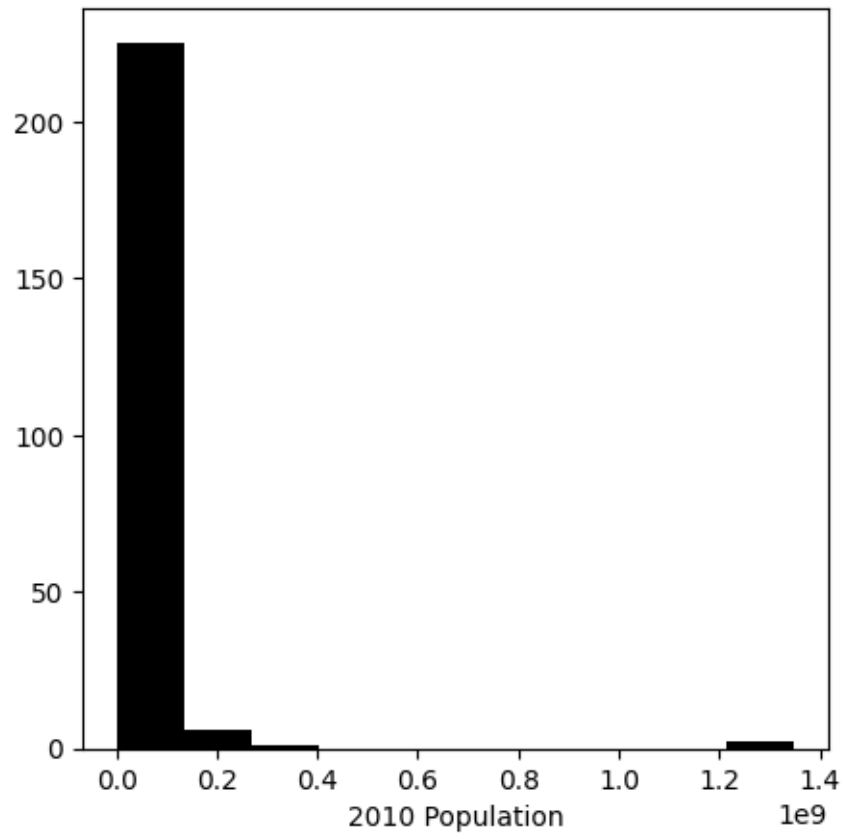
```
[ ]: cols=['2022 Population', '2020 Population', '2015 Population', '2010_  
↪Population', '2000 Population', '1990 Population', '1980 Population', '1970_  
↪Population']
```

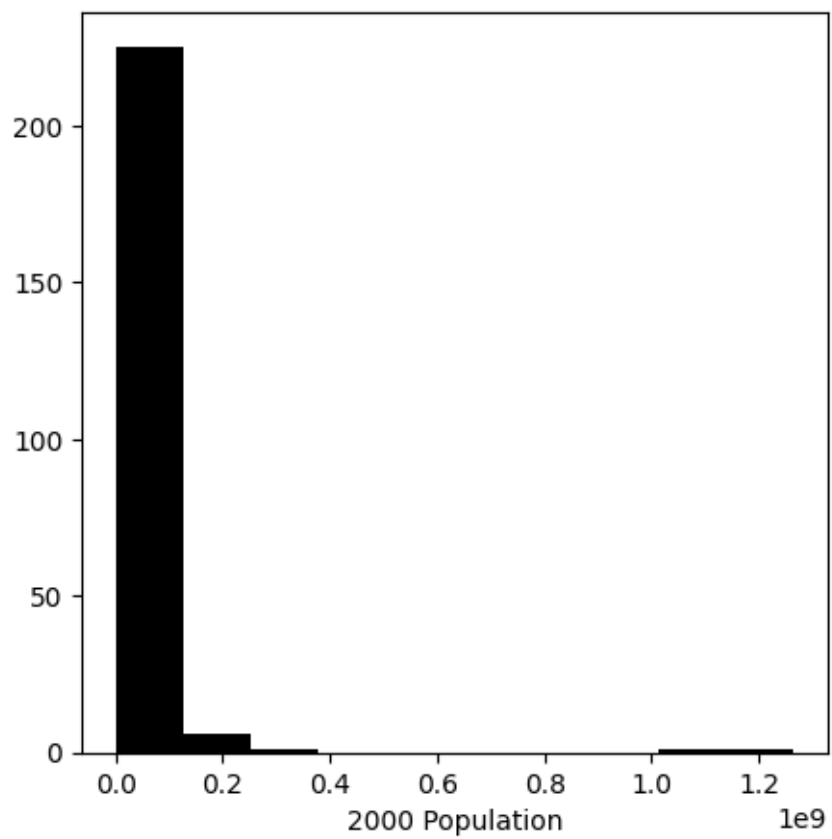
```
[ ]: for i in cols:  
    fig = plt.figure(figsize=(5,5))  
    plt.hist(df[i],color='black',bins=10)  
    plt.xlabel(i)  
    plt.show()
```

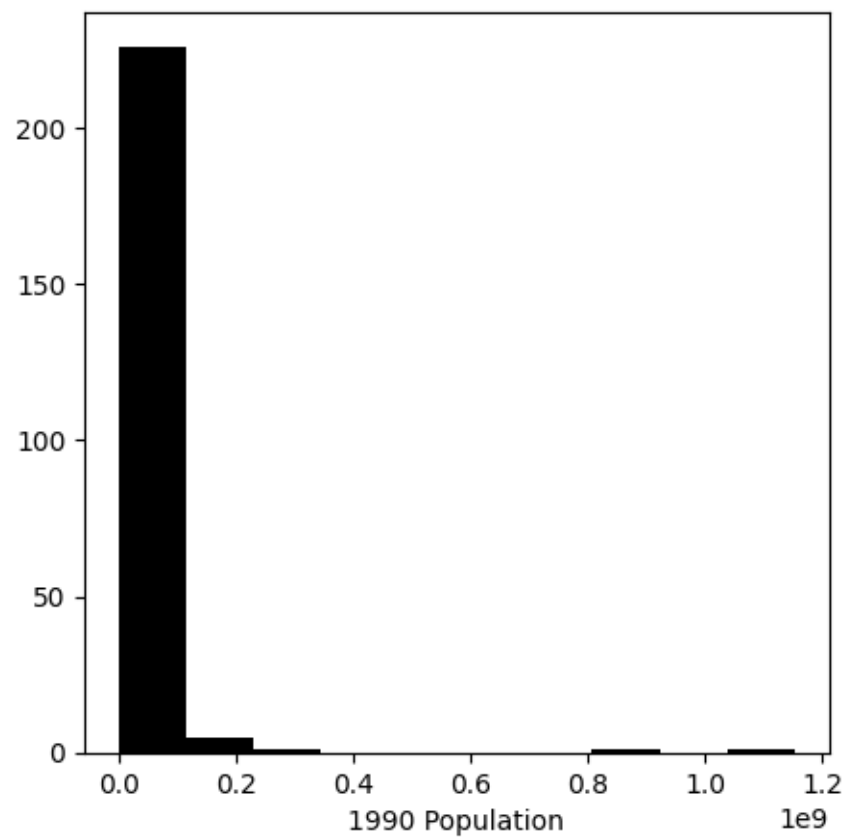


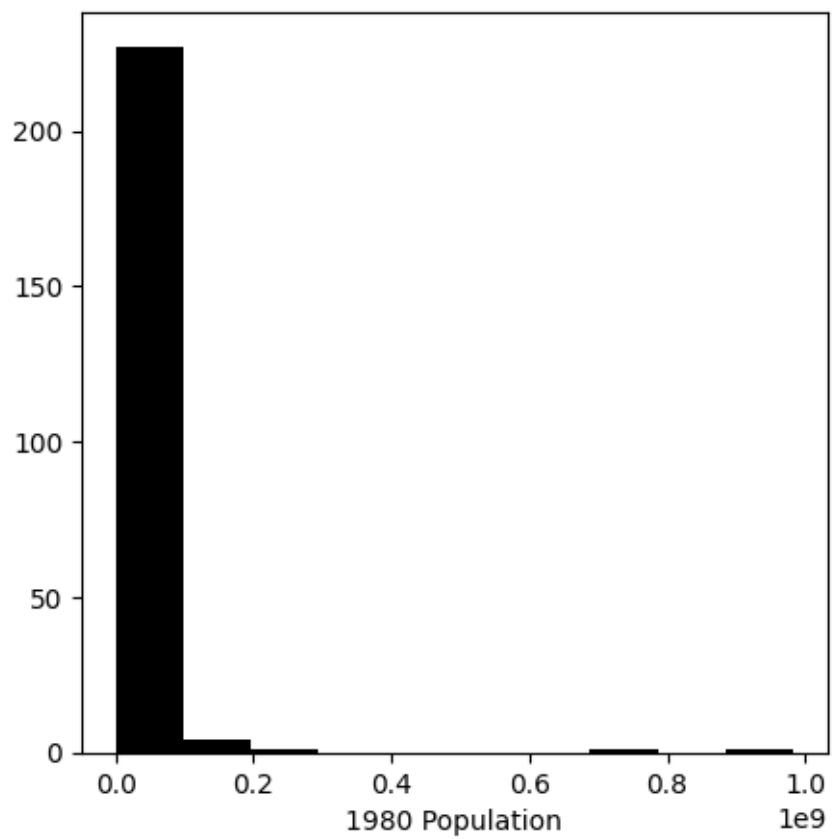


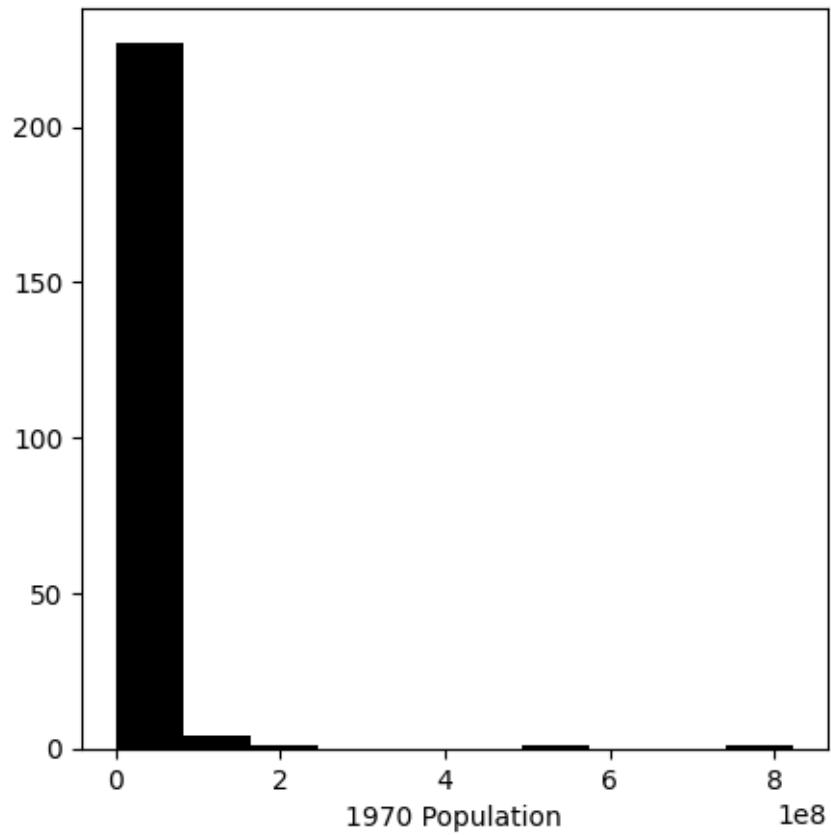








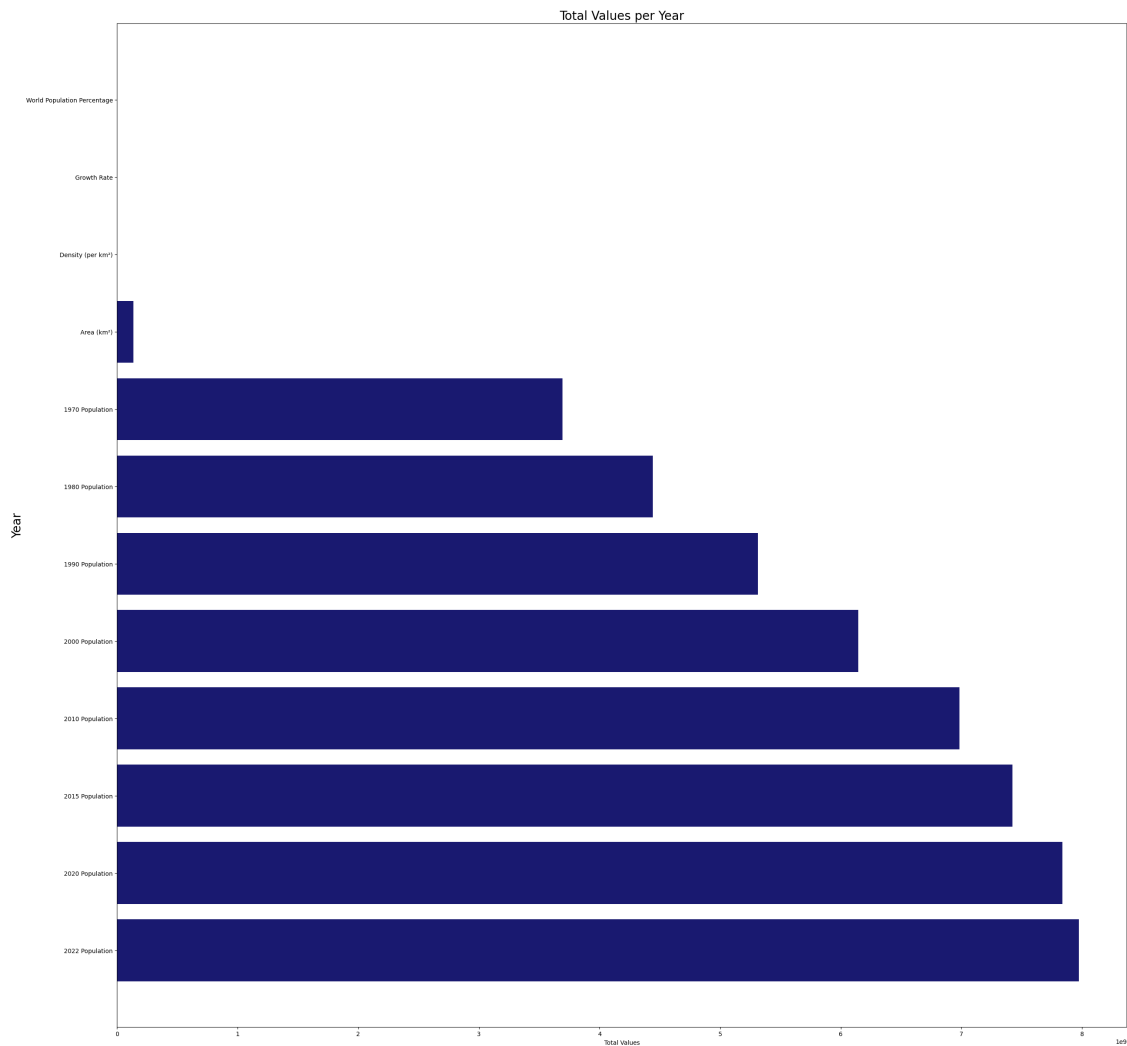




```
[ ]: years = df.columns[1:]

total_values = df[years].sum()

plt.figure(figsize=(30, 30))
plt.barh(years, total_values,color='#191970')
plt.xlabel('Total Values')
plt.ylabel('Year', size=20)
plt.title('Total Values per Year', size=20)
plt.show()
```



```
[ ]: Country_Territory_by_1970_Population = df.sort_values(by = '1970 Population').
      ↪head(30)
Country_Territory_by_1970_Population
```

```
[ ]:
Country/Territory 2022 Population 2020 Population \
226 Vatican City 510 520
209 Tokelau 1871 1827
64 Falkland Islands 3780 3747
173 Saint Barthelemy 10967 10681
150 Niue 1934 1942
177 Saint Pierre and Miquelon 5862 5906
215 Turks and Caicos Islands 45703 44276
176 Saint Martin 31791 32552
216 Tuvalu 11312 11069
188 Sint Maarten 44175 43621
```

6	Anguilla	15857	15585
142	Nauru	12668	12315
229	Wallis and Futuna	11572	11655
28	British Virgin Islands	31305	30910
153	Northern Mariana Islands	49551	49587
37	Cayman Islands	68706	67311
157	Palau	18055	17972
137	Montserrat	4390	4500
180	San Marino	33660	34007
4	Andorra	79824	77700
44	Cook Islands	17011	17029
116	Liechtenstein	39327	38756
126	Marshall Islands	41569	43413
134	Monaco	36469	36922
76	Gibraltar	32649	32709
3	American Samoa	44273	46189
130	Mayotte	326101	305587
65	Faroe Islands	53090	52415
174	Saint Kitts and Nevis	47657	47642
78	Greenland	56466	56026

	2015 Population	2010 Population	2000 Population	1990 Population \
226	564	596	651	700
209	1454	1367	1666	1669
64	3408	3187	3080	2332
173	9643	8988	7082	5168
150	1847	1812	2074	2533
177	5978	6052	6274	6324
215	36538	29726	18744	11709
176	35020	36458	29610	28127
216	10877	10550	9638	9182
188	40205	33034	30489	27845
6	14525	13172	11047	8316
142	11185	10241	10377	9598
229	12182	13142	14723	13454
28	29366	27556	20104	15617
153	51514	54087	80338	48002
37	60911	54074	39658	26027
157	17794	18540	19726	15293
137	5059	4938	5138	10805
180	33570	31608	26823	23132
4	71746	71519	66097	53569
44	17695	17212	15897	17123
116	37355	35926	33026	28765
126	49410	53416	54224	46047
134	36760	33178	32465	30329
76	32520	31262	27741	27317

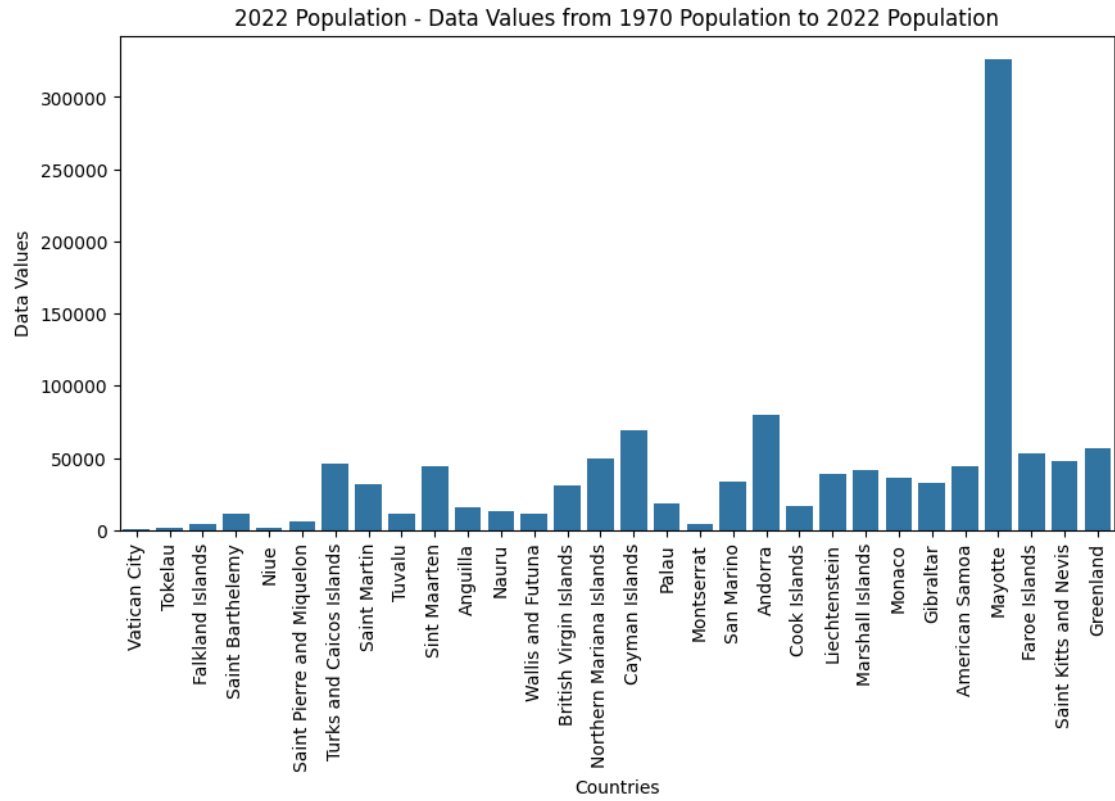
3	51368	54849	58230	47818
130	249545	211786	159215	92659
65	48816	48410	45660	47479
174	47790	47403	45461	40636
78	55895	56351	56184	55599

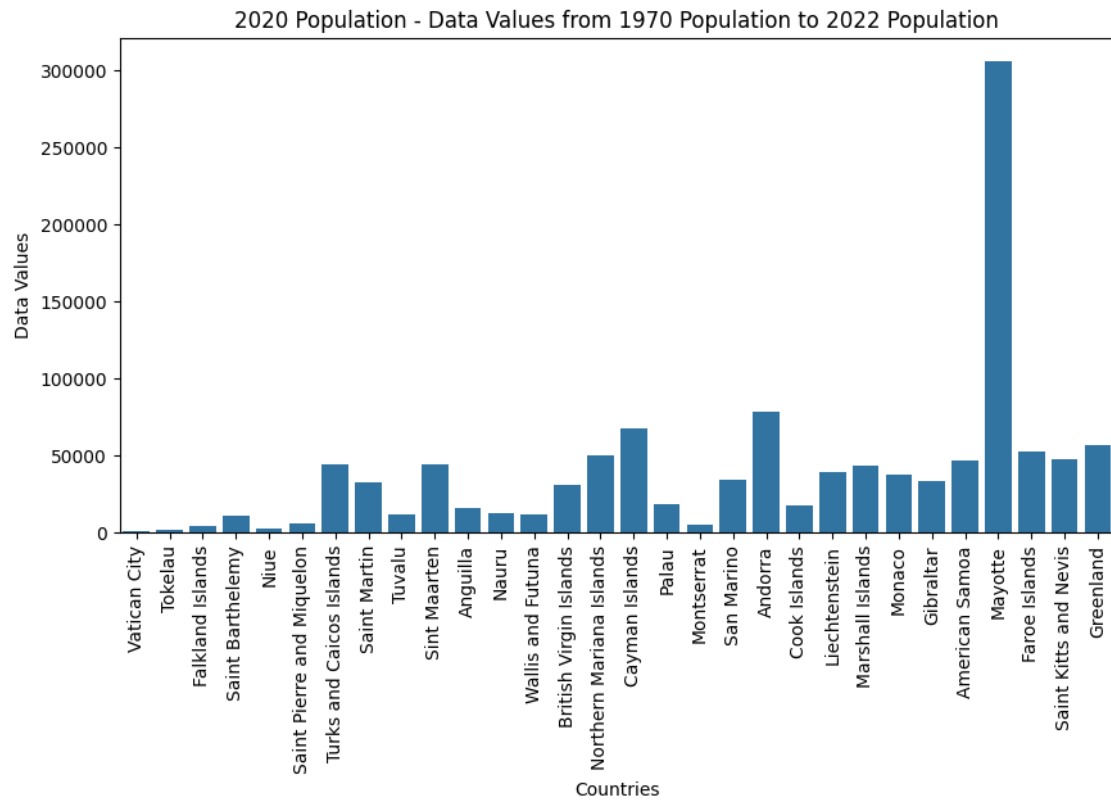
	1980 Population	1970 Population	Area (km ²)	Density (per km ²)	\
226	733	752	1	510.0000	
209	1647	1714	12	155.9167	
64	2240	2274	12173	0.3105	
173	2983	2417	21	522.2381	
150	3637	5185	260	7.4385	
177	6106	5537	242	24.2231	
215	7598	5665	948	48.2099	
176	7776	5802	53	599.8302	
216	7731	5814	26	435.0769	
188	12243	6260	34	1299.2647	
6	6560	6283	91	174.2527	
142	7635	6663	21	603.2381	
229	11315	9377	142	81.4930	
28	11109	9581	151	207.3179	
153	17613	10143	464	106.7909	
37	17100	10533	264	260.2500	
157	12252	11366	459	39.3355	
137	11452	11402	102	43.0392	
180	21346	18169	61	551.8033	
4	35611	19860	468	170.5641	
44	17651	20470	236	72.0805	
116	25003	21089	160	245.7937	
126	31988	23969	181	229.6630	
134	27076	24270	2	18234.5000	
76	28734	26685	6	5441.5000	
3	32886	27075	199	222.4774	
130	52233	35383	374	871.9278	
65	43054	38416	1393	38.1120	
174	43097	44968	261	182.5939	
78	50106	45434	2166086	0.0261	

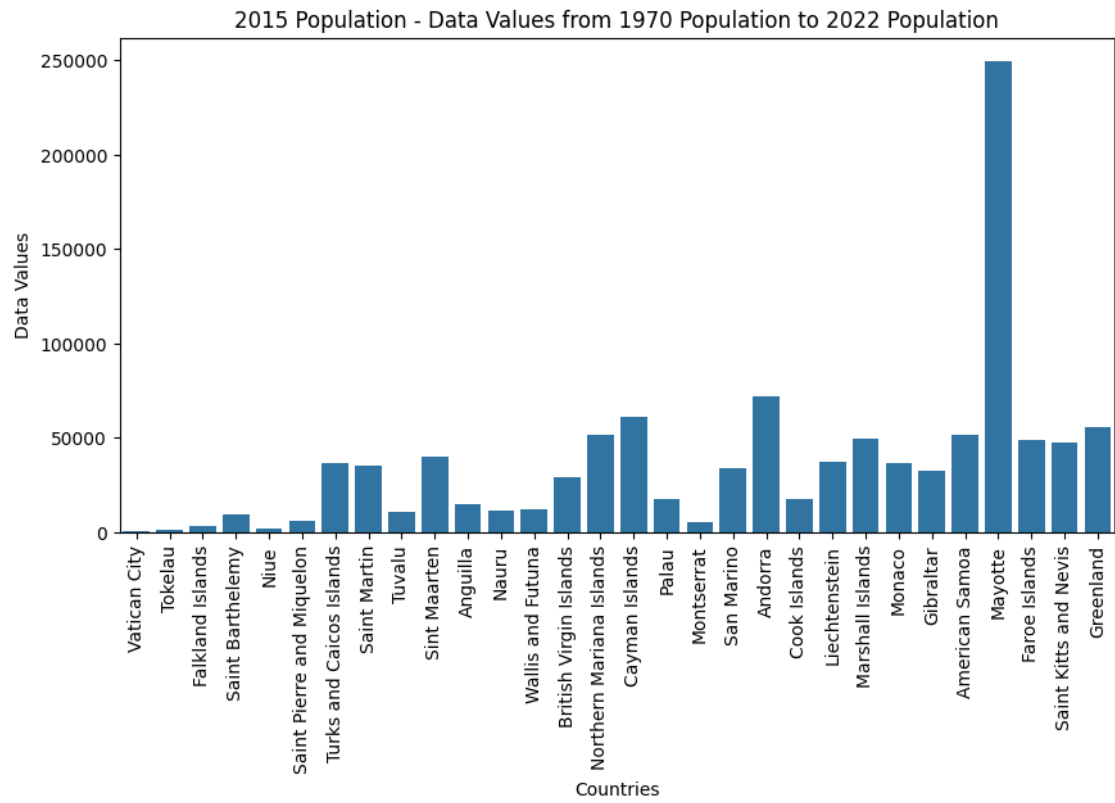
	Growth Rate	World Population Percentage
226	0.9980	0.0
209	1.0119	0.0
64	1.0043	0.0
173	1.0098	0.0
150	0.9985	0.0
177	0.9964	0.0
215	1.0131	0.0
176	0.9951	0.0

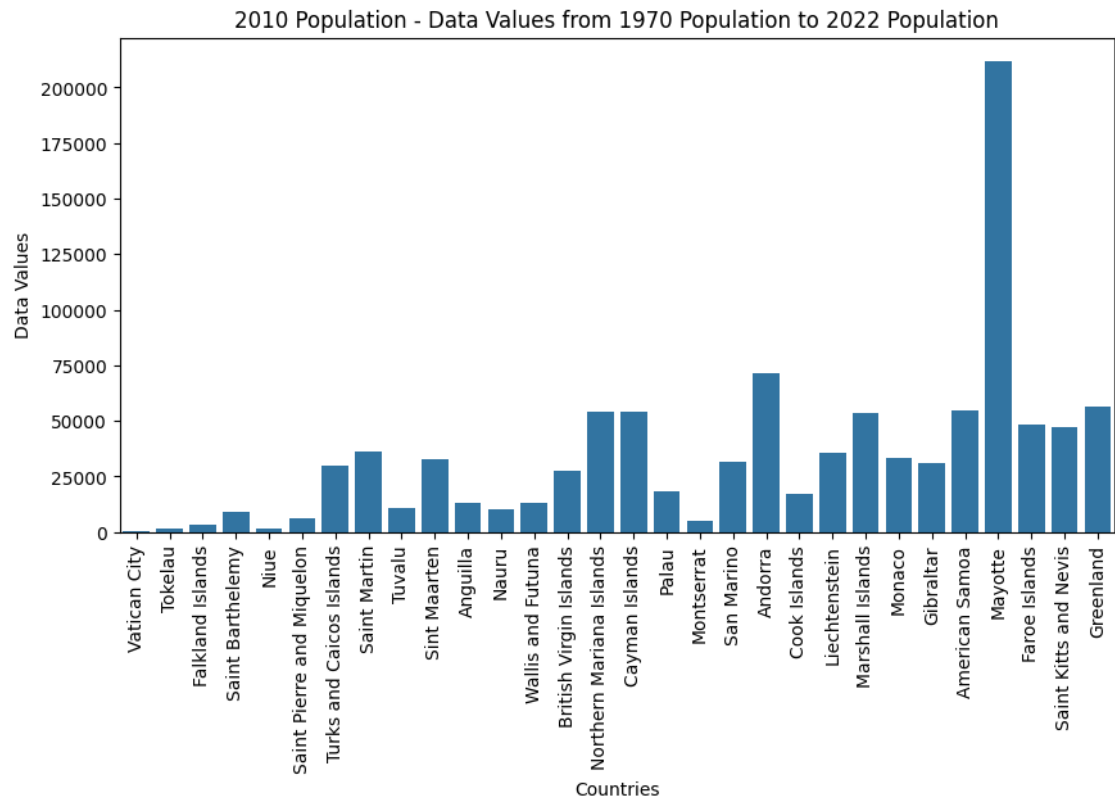
216	1.0096	0.0
188	1.0030	0.0
6	1.0066	0.0
142	1.0125	0.0
229	0.9953	0.0
28	1.0059	0.0
153	1.0014	0.0
37	1.0084	0.0
157	1.0017	0.0
137	0.9939	0.0
180	0.9975	0.0
4	1.0100	0.0
44	1.0005	0.0
116	1.0074	0.0
126	0.9886	0.0
134	0.9941	0.0
76	0.9994	0.0
3	0.9831	0.0
130	1.0319	0.0
65	1.0038	0.0
174	1.0011	0.0
78	1.0040	0.0

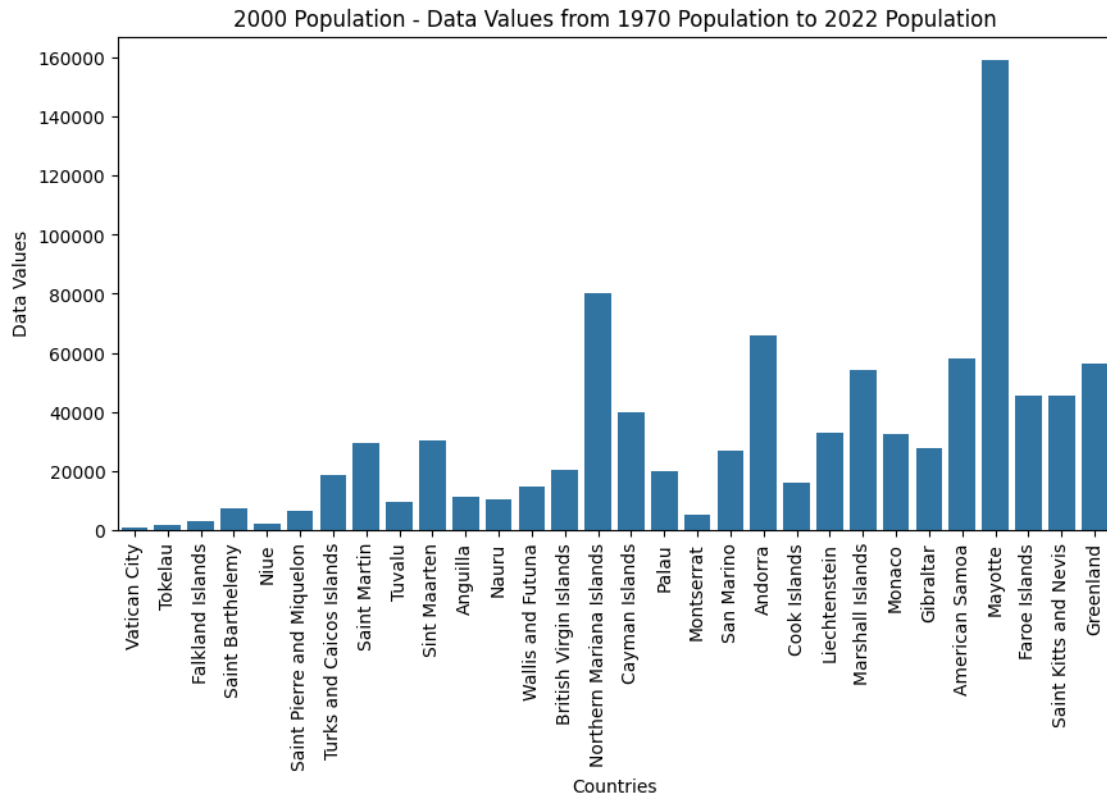
```
[ ]: Country_Territory_by_1970_Population_t = Country_Territory_by_1970_Population.
      ↪set_index('Country/Territory').T
for country_Territory, data_values in Country_Territory_by_1970_Population_t.
  ↪iterrows():
    fig = plt.figure(figsize=(10, 5))
    sns.barplot(x=data_values.index, y=data_values.values)
    plt.xlabel('Countries')
    plt.ylabel('Data Values')
    plt.title(f"{country_Territory} - Data Values from 1970 Population to 2022,
  ↪Population")
    plt.xticks(rotation=90)
    plt.show()
```

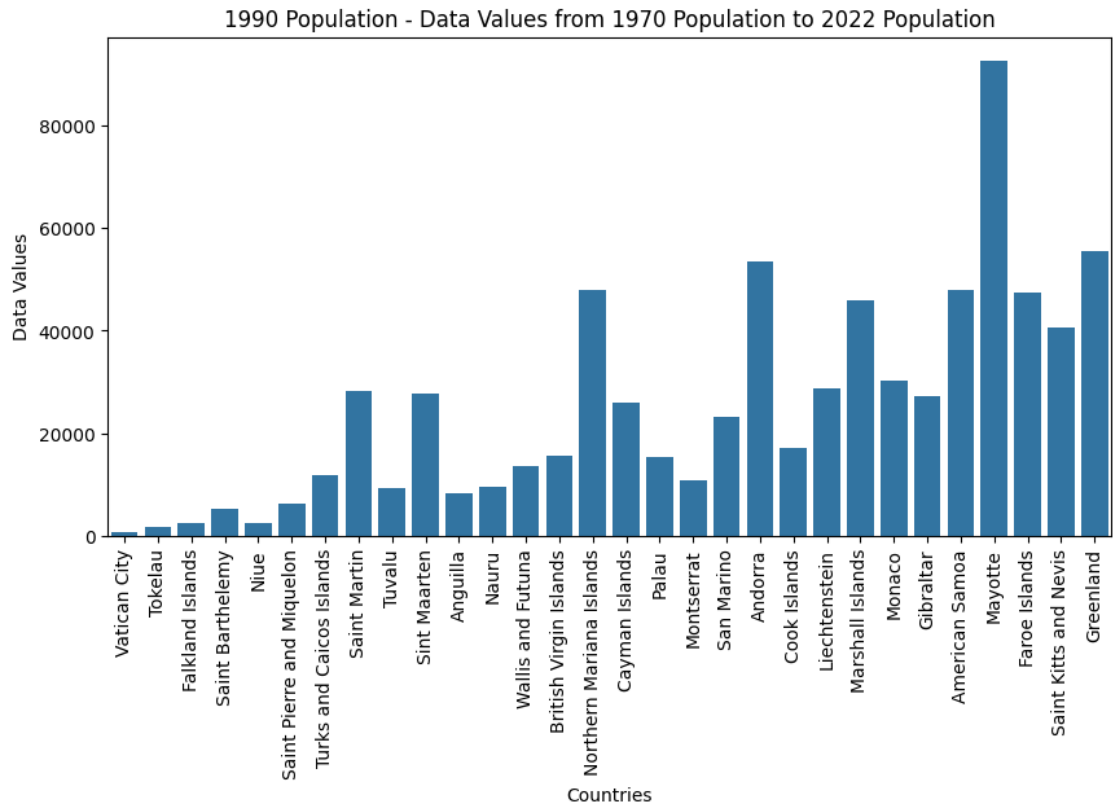


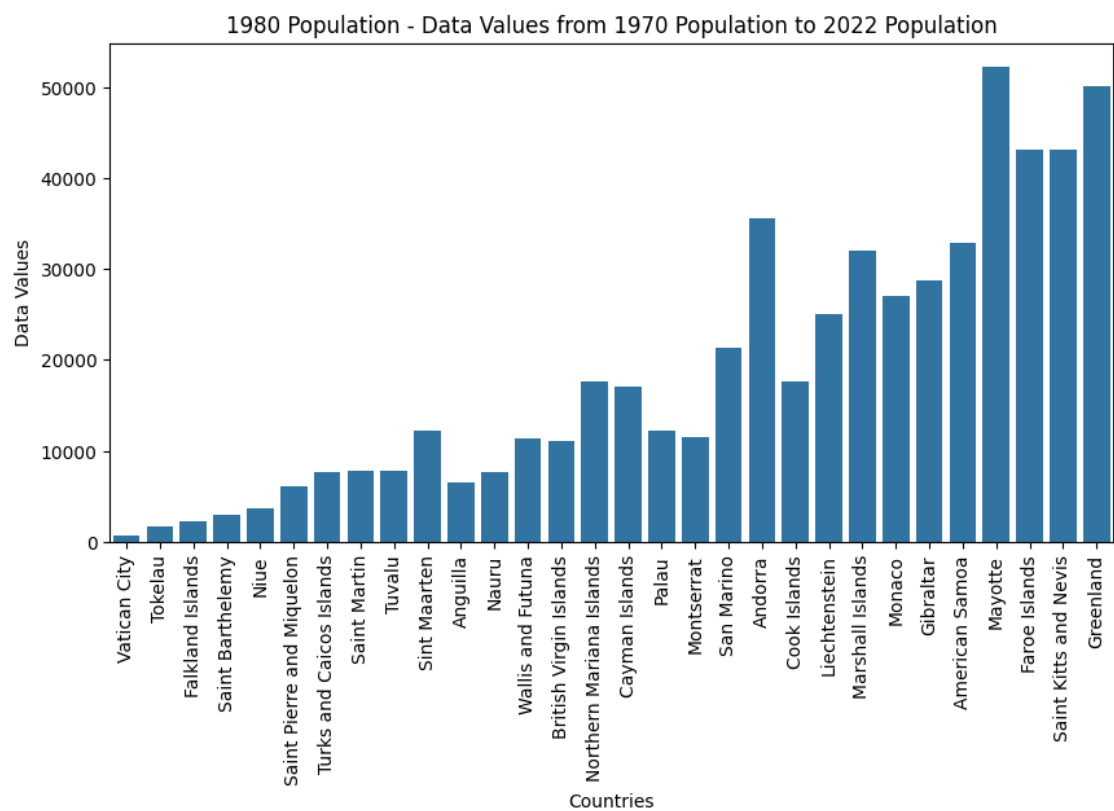


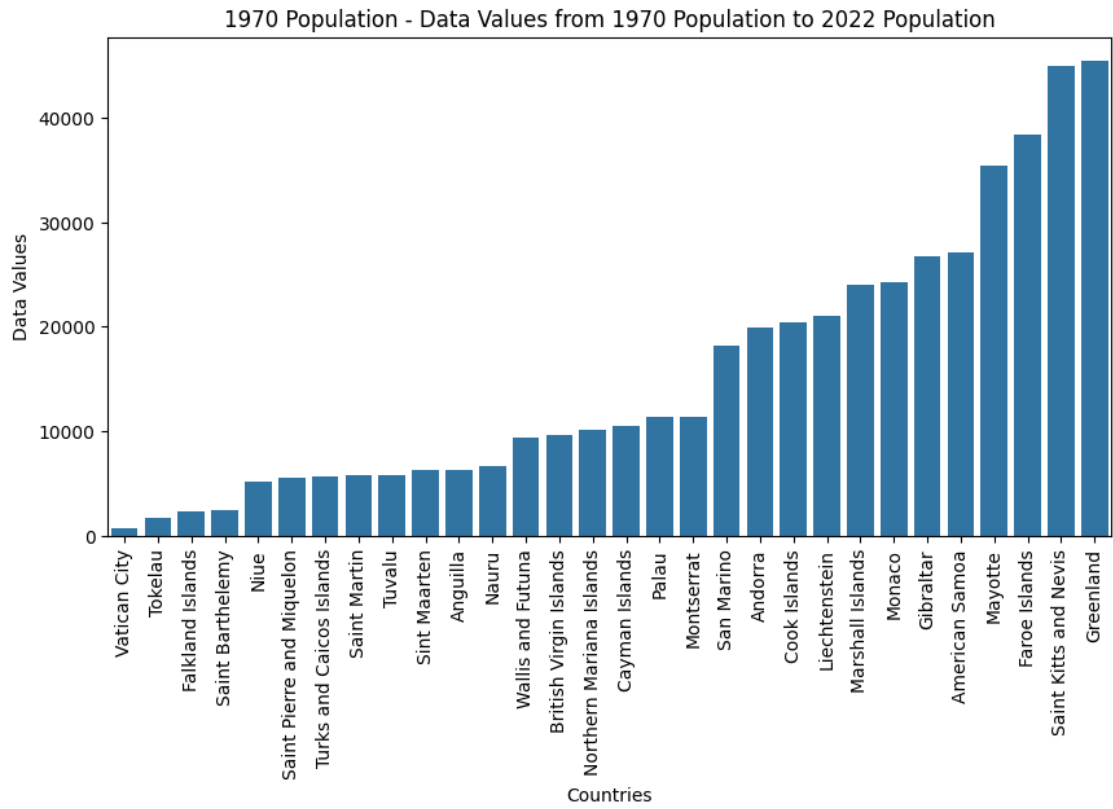


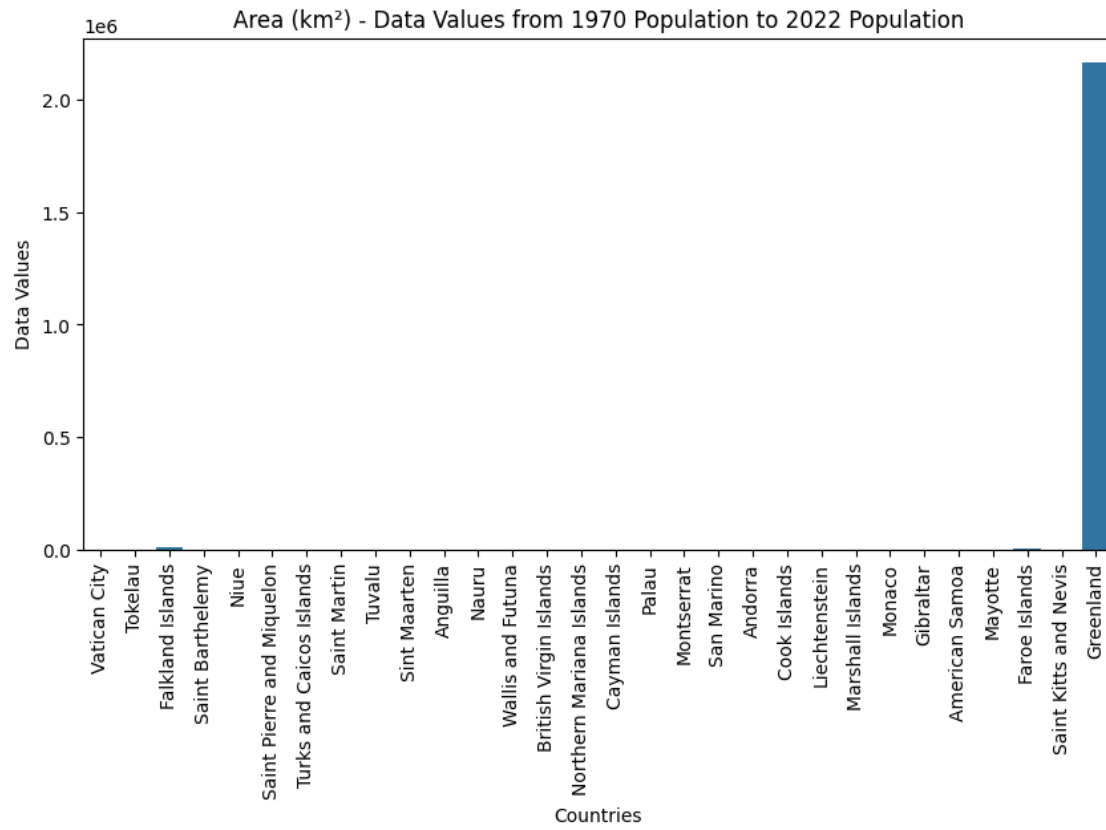


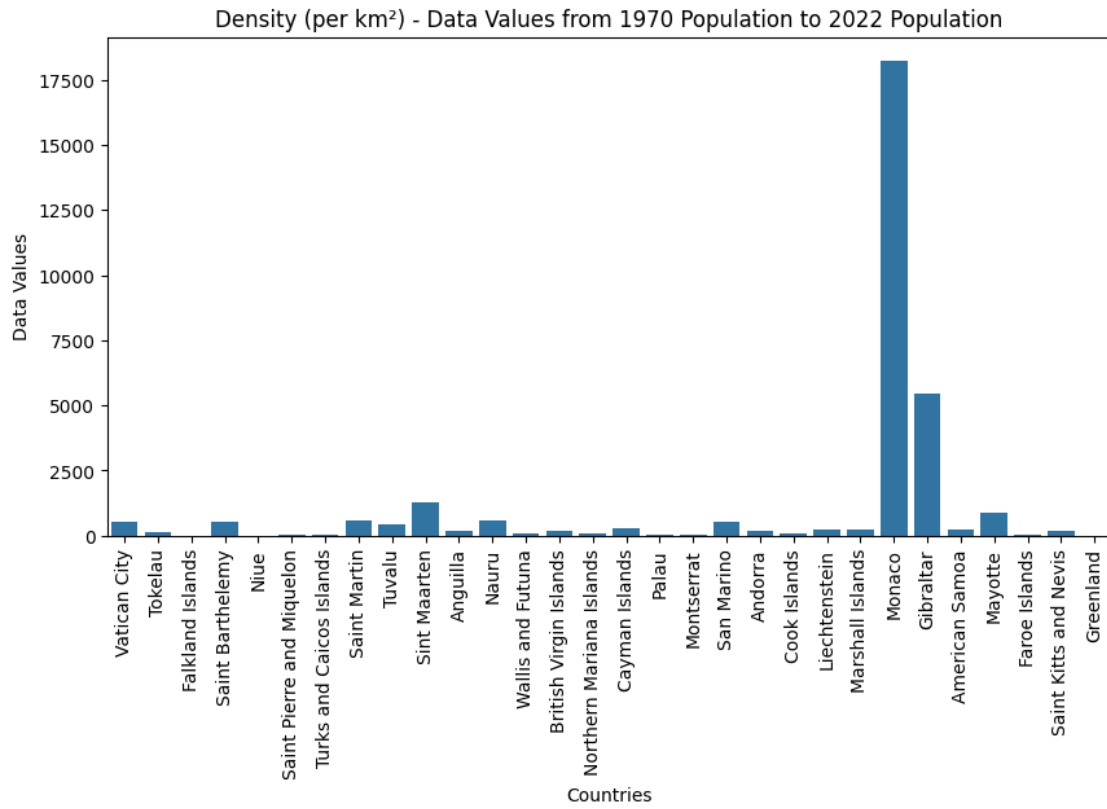


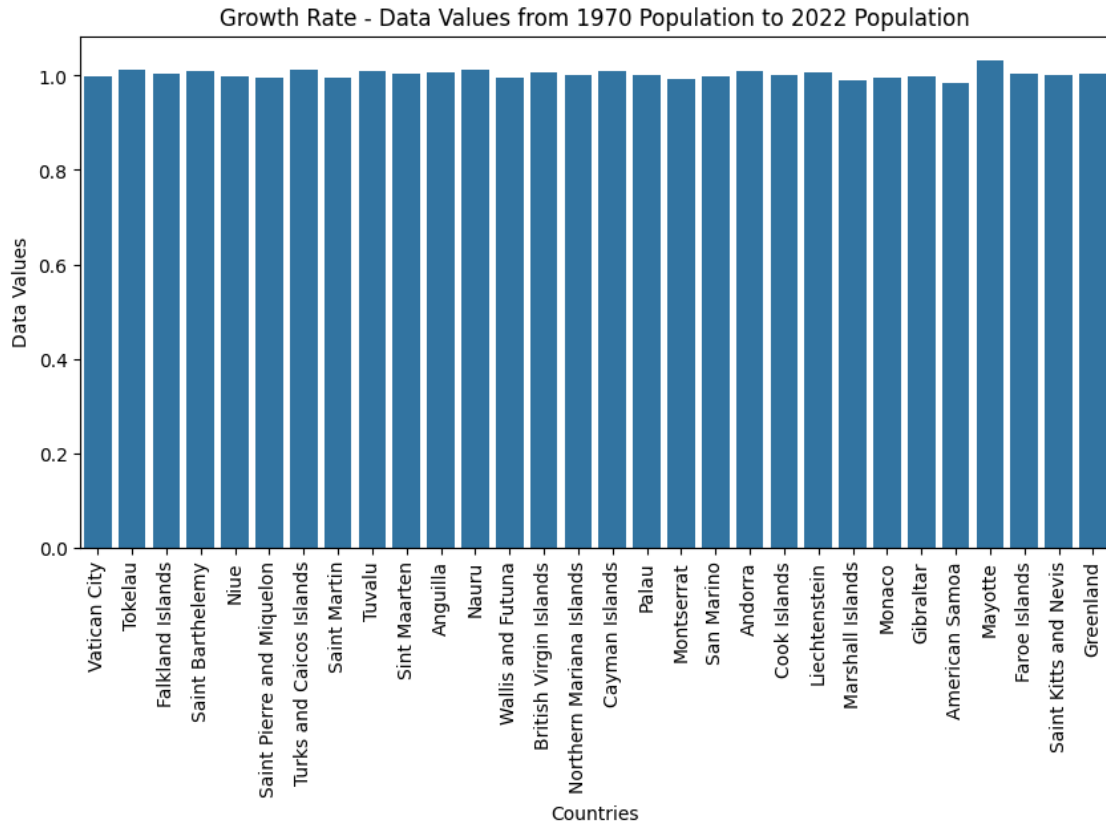


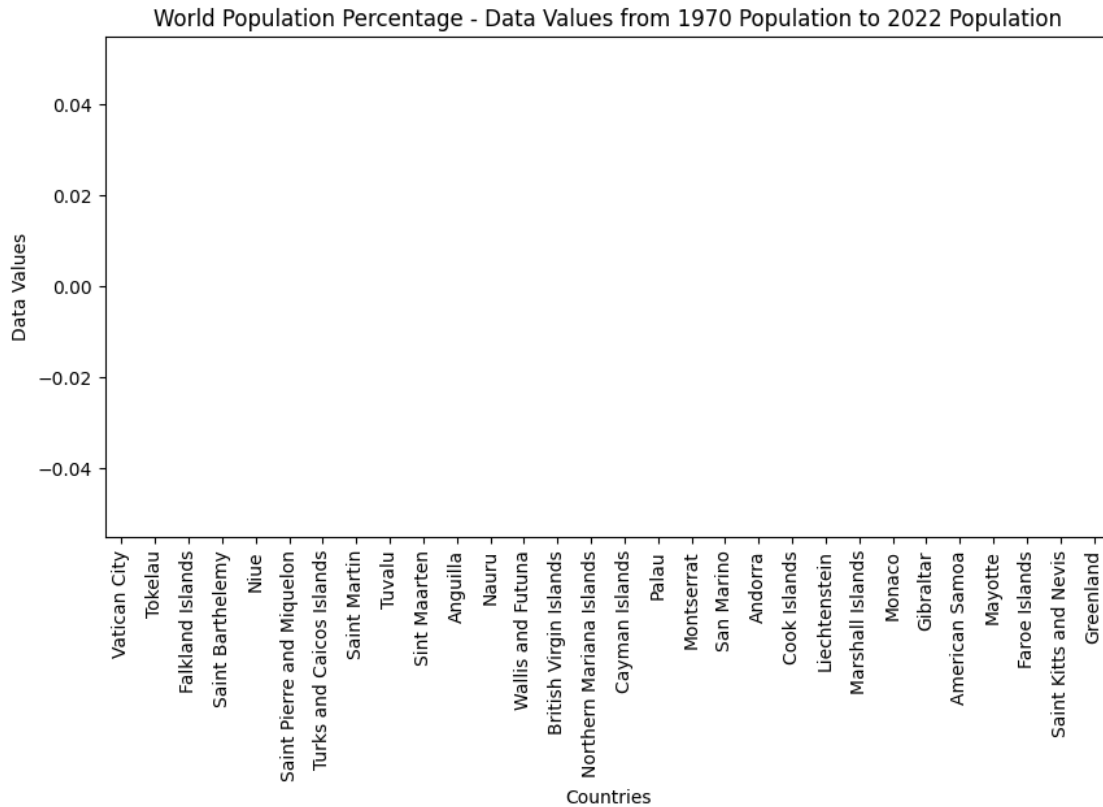












```
[ ]: Country_Territory_by_2022_Population = df.sort_values(by = '2022 Population').
      ↪head(30)
Country_Territory_by_2022_Population
```

```
[ ]:
      Country/Territory  2022 Population  2020 Population  \
226      Vatican City           510           520
209      Tokelau             1871          1827
150      Niue                 1934          1942
64      Falkland Islands       3780          3747
137      Montserrat           4390          4500
177  Saint Pierre and Miquelon   5862          5906
173      Saint Barthelemy      10967         10681
216      Tuvalu               11312         11069
229      Wallis and Futuna      11572         11655
142      Nauru                12668         12315
6      Anguilla               15857         15585
44      Cook Islands          17011         17029
157      Palau                18055         17972
28      British Virgin Islands  31305         30910
176      Saint Martin          31791         32552
76      Gibraltar            32649         32709
```

180	San Marino	33660	34007
134	Monaco	36469	36922
116	Liechtenstein	39327	38756
126	Marshall Islands	41569	43413
188	Sint Maarten	44175	43621
3	American Samoa	44273	46189
215	Turks and Caicos Islands	45703	44276
174	Saint Kitts and Nevis	47657	47642
153	Northern Mariana Islands	49551	49587
65	Faroe Islands	53090	52415
78	Greenland	56466	56026
83	Guernsey	63301	62794
22	Bermuda	64184	64031
37	Cayman Islands	68706	67311

	2015 Population	2010 Population	2000 Population	1990 Population \
226	564	596	651	700
209	1454	1367	1666	1669
150	1847	1812	2074	2533
64	3408	3187	3080	2332
137	5059	4938	5138	10805
177	5978	6052	6274	6324
173	9643	8988	7082	5168
216	10877	10550	9638	9182
229	12182	13142	14723	13454
142	11185	10241	10377	9598
6	14525	13172	11047	8316
44	17695	17212	15897	17123
157	17794	18540	19726	15293
28	29366	27556	20104	15617
176	35020	36458	29610	28127
76	32520	31262	27741	27317
180	33570	31608	26823	23132
134	36760	33178	32465	30329
116	37355	35926	33026	28765
126	49410	53416	54224	46047
188	40205	33034	30489	27845
3	51368	54849	58230	47818
215	36538	29726	18744	11709
174	47790	47403	45461	40636
153	51514	54087	80338	48002
65	48816	48410	45660	47479
78	55895	56351	56184	55599
83	61629	60782	59114	57727
22	63144	63447	61371	57470
37	60911	54074	39658	26027

	1980 Population	1970 Population	Area (km ²)	Density (per km ²)	\
226	733	752	1	510.0000	
209	1647	1714	12	155.9167	
150	3637	5185	260	7.4385	
64	2240	2274	12173	0.3105	
137	11452	11402	102	43.0392	
177	6106	5537	242	24.2231	
173	2983	2417	21	522.2381	
216	7731	5814	26	435.0769	
229	11315	9377	142	81.4930	
142	7635	6663	21	603.2381	
6	6560	6283	91	174.2527	
44	17651	20470	236	72.0805	
157	12252	11366	459	39.3355	
28	11109	9581	151	207.3179	
176	7776	5802	53	599.8302	
76	28734	26685	6	5441.5000	
180	21346	18169	61	551.8033	
134	27076	24270	2	18234.5000	
116	25003	21089	160	245.7937	
126	31988	23969	181	229.6630	
188	12243	6260	34	1299.2647	
3	32886	27075	199	222.4774	
215	7598	5665	948	48.2099	
174	43097	44968	261	182.5939	
153	17613	10143	464	106.7909	
65	43054	38416	1393	38.1120	
78	50106	45434	2166086	0.0261	
83	52860	52656	78	811.5513	
22	53565	52019	54	1188.5926	
37	17100	10533	264	260.2500	

	Growth Rate	World Population Percentage
226	0.9980	0.0
209	1.0119	0.0
150	0.9985	0.0
64	1.0043	0.0
137	0.9939	0.0
177	0.9964	0.0
173	1.0098	0.0
216	1.0096	0.0
229	0.9953	0.0
142	1.0125	0.0
6	1.0066	0.0
44	1.0005	0.0
157	1.0017	0.0
28	1.0059	0.0

176	0.9951	0.0
76	0.9994	0.0
180	0.9975	0.0
134	0.9941	0.0
116	1.0074	0.0
126	0.9886	0.0
188	1.0030	0.0
3	0.9831	0.0
215	1.0131	0.0
174	1.0011	0.0
153	1.0014	0.0
65	1.0038	0.0
78	1.0040	0.0
83	1.0037	0.0
22	1.0000	0.0
37	1.0084	0.0

```
[ ]: Country_Territory_by_2022_Population_t = Country_Territory_by_2022_Population.
      ↪set_index('Country/Territory').T
for country_Territory, data_values in Country_Territory_by_2022_Population_t.
  ↪iterrows():
    fig = plt.figure(figsize=(10, 5))
    sns.barplot(x=data_values.index, y=data_values.values)
    plt.xlabel('Year')
    plt.ylabel('Data Values')
    plt.title(f"{country_Territory} - Data Values from 1970 Population to 2022_
  ↪Population")
    plt.xticks(rotation=90)
    plt.show()
```

