

```

In [121]: import pandas as pd

In [122]: import numpy as np

In [123]: import matplotlib.pyplot as plt

In [124]: import seaborn as sns

In [125]: df = pd.read_csv('worldpopulation.csv')

In [126]: # To view rows 1 through 6 (Python uses 0-based indexing)
df[0:6]

Out[126]:
   Series Name  Series Code  Country Name  Country Code  2022    2021    2020    2019    2018    2017    ...    2010    2009    2008    2007    2006    2005    2004    2003    2002    2001
0  Population, total  SP.POP.TOTL  Afghanistan  AFG  41128771.0  40594622.0  39789490.0  36686764.0  35641416.0  ...  28189672.0  27363507.0  26471910.0  25903301.0  25442944.0  24411191.0  23535510.0  22645130.0  21003256.0  19688832.0
1  Population, total  SP.POP.TOTL  Albania  ALB  2775834.0  2811966.0  2837223.0  2786499.0  2784191.0  ...  2866376.0  2854191.0  2866376.0  2854191.0  2866376.0  2854191.0  2866376.0  2854191.0  2866376.0  2854191.0
2  Population, total  SP.POP.TOTL  Algeria  DZA  4460225.0  4417796.0  43451066.0  4270536.0  4182700.7  ...  4136546.0  ...  3586344.0  3586344.0  3586344.0  3586344.0  3586344.0  3586344.0  3586344.0  3586344.0
3  Population, total  SP.POP.TOTL  American Samoa  ASM  44273.0  45025.0  46180.0  47321.0  48424.0  ...  49463.0  ...  54849.0  55366.0  55591.0  56363.0  56637.0  57264.0  57638.0  57941.0  58177.0  58324.0
4  Population, total  SP.POP.TOTL  Andorra  AND  78624.0  78634.0  77700.0  76343.0  75013.0  ...  73837.0  ...  71519.0  73852.0  76055.0  78166.0  80221.0  79626.0  78933.0  73607.0  70460.0  67620.0

5 rows x 26 columns

In [127]: # To view the first 6 rows
df.head(6)

Out[127]:
   Series Name  Series Code  Country Name  Country Code  2022    2021    2020    2019    2018    2017    ...    2010    2009    2008    2007    2006    2005    2004    2003    2002    2001
0  Population, total  SP.POP.TOTL  Afghanistan  AFG  41128771.0  40594622.0  39789490.0  36686764.0  35641416.0  ...  28189672.0  27363507.0  26471910.0  25903301.0  25442944.0  24411191.0  23535510.0  22645130.0  21003256.0  19688832.0
1  Population, total  SP.POP.TOTL  Albania  ALB  2775834.0  2811966.0  2837223.0  2786499.0  2784191.0  ...  2866376.0  2854191.0  2866376.0  2854191.0  2866376.0  2854191.0  2866376.0  2854191.0  2866376.0  2854191.0
2  Population, total  SP.POP.TOTL  Algeria  DZA  4460225.0  4417796.0  43451066.0  4270536.0  4182700.7  ...  4136546.0  ...  3586344.0  3586344.0  3586344.0  3586344.0  3586344.0  3586344.0  3586344.0  3586344.0
3  Population, total  SP.POP.TOTL  American Samoa  ASM  44273.0  45025.0  46180.0  47321.0  48424.0  ...  49463.0  ...  54849.0  55366.0  55591.0  56363.0  56637.0  57264.0  57638.0  57941.0  58177.0  58324.0
4  Population, total  SP.POP.TOTL  Andorra  AND  78624.0  78634.0  77700.0  76343.0  75013.0  ...  73837.0  ...  71519.0  73852.0  76055.0  78166.0  80221.0  79626.0  78933.0  73607.0  70460.0  67620.0

5 rows x 26 columns

In [128]: df.tail(5)

Out[128]:
   Series Name  Series Code  Country Name  Country Code  2022    2021    2020    2019    2018    2017    ...    2010    2009    2008    2007    2006    2005    2004    2003    2002    2001
1080  Population, male (% of total population)  SP.POP.TOTL.MA.ZS  Virgin Islands (U.S.)  VIR  46.613382  46.764444  46.914637  47.057707  47.185912  47.316214  ...  47.801695  47.834540  47.870063  47.897604  47.927072  47.952699  47.978128  47.999138  47.978128  47.952699
1081  Population, male (% of total population)  SP.POP.TOTL.MA.ZS  West Bank and Gaza  PSE  49.806578  49.877638  49.898567  49.830542  49.813174  49.785969  ...  49.870336  49.836677  49.821465  49.947631  49.983233  50.023649  50.038953  50.167544  50.248156  50.321633
1082  Population, male (% of total population)  SP.POP.TOTL.MA.ZS  Yemen, Rep.  YEM  50.514201  50.581616  50.564537  50.571320  50.586614  50.616864  ...  50.594710  50.582592  50.588878  50.582630  50.539012  50.522514  50.502770  50.491666  50.459441  50.477238
1083  Population, male (% of total population)  SP.POP.TOTL.MA.ZS  Zambia  ZMB  49.346602  49.344651  49.338307  49.326233  49.300687  49.288400  ...  49.056279  48.931404  48.884343  48.784768  48.676844  48.571388  48.473900  48.373466  48.273646  48.172985
1084  Population, male (% of total population)  SP.POP.TOTL.MA.ZS  Zimbabwe  ZWE  47.214139  47.167153  47.130679  47.099776  47.076238  47.051613  ...  46.955638  47.048546  47.100668  47.166415  47.190963  47.231433  47.234066  47.234066  47.234066  47.234066

5 rows x 26 columns

In [129]: df.shape

Out[129]:
(1085, 26)

In [170]: df.columns

Out[170]:
Index(['Country Name', 'Country Code', 'Series Name', 'Series Code', '2022', '2021', '2020', '2019', '2018', '2017', ..., '2010', '2009', '2008', '2007', '2006', '2005', '2004', '2003', '2002', '2001', 'pop_male'],
      dtype='object')

In [181]: df.info

Out[181]:
Outbound method DataFrame.info of
0      Population, total      SP.POP.TOTL
1      Population, total      SP.POP.TOTL
2      Population, total      SP.POP.TOTL
3      Population, total      SP.POP.TOTL
4      Population, total      SP.POP.TOTL
...
1080  Population, male (% of total population)  SP.POP.TOTL.MA.ZS
1081  Population, male (% of total population)  SP.POP.TOTL.MA.ZS
1082  Population, male (% of total population)  SP.POP.TOTL.MA.ZS
1083  Population, male (% of total population)  SP.POP.TOTL.MA.ZS
1084  Population, male (% of total population)  SP.POP.TOTL.MA.ZS
...
Country Name Country Code 2022 2021 2020 2019 2018 2017 ... 2010 2009 2008 2007 2006 2005 2004 2003 2002 2001
0  Afghanistan AFG 41128771.0 40594622.0 39789490.0 36686764.0 35641416.0 ... 28189672.0 27363507.0 26471910.0 25903301.0 25442944.0 24411191.0 23535510.0 22645130.0 21003256.0 19688832.0
1  Albania ALB 2775834.0 2811966.0 2837223.0 2786499.0 2784191.0 ... 2866376.0 2854191.0 2866376.0 2854191.0 2866376.0 2854191.0 2866376.0 2854191.0 2866376.0 2854191.0
2  Algeria DZA 4460225.0 4417796.0 43451066.0 4270536.0 4182700.7 ... 4136546.0 ... 3586344.0 3586344.0 3586344.0 3586344.0 3586344.0 3586344.0 3586344.0 3586344.0
3  American Samoa ASM 44273.0 45025.0 46180.0 47321.0 48424.0 ... 49463.0 ... 54849.0 55366.0 55591.0 56363.0 56637.0 57264.0 57638.0 57941.0 58177.0 58324.0
4  Andorra AND 78624.0 78634.0 77700.0 76343.0 75013.0 ... 73837.0 ... 71519.0 73852.0 76055.0 78166.0 80221.0 79626.0 78933.0 73607.0 70460.0 67620.0
...
1080  Virgin Islands (U.S.) VIR 46.613382 46.764444 46.914637 47.057707 47.185912 47.316214 ... 47.801695 47.834540 47.870063 47.897604 47.927072 47.952699 47.978128 47.999138 47.978128 47.952699
1081  West Bank and Gaza PSE 49.806578 49.877638 49.898567 49.830542 49.813174 49.785969 ... 49.870336 49.836677 49.821465 49.947631 49.983233 50.023649 50.038953 50.167544 50.248156 50.321633
1082  Yemen, Rep. YEM 50.514201 50.581616 50.564537 50.571320 50.586614 50.616864 ... 50.594710 50.582592 50.588878 50.582630 50.539012 50.522514 50.502770 50.491666 50.459441 50.477238
1083  Zambia ZMB 49.346602 49.344651 49.338307 49.326233 49.300687 49.288400 ... 49.056279 48.931404 48.884343 48.784768 48.676844 48.571388 48.473900 48.373466 48.273646 48.172985
1084  Zimbabwe ZWE 47.214139 47.167153 47.130679 47.099776 47.076238 47.051613 ... 46.955638 47.048546 47.100668 47.166415 47.190963 47.231433 47.234066 47.234066 47.234066 47.234066

5 rows x 26 columns

In [129]: df.describe

Out[129]:
Outbound method DataFrame.describe of
0      Population, total      SP.POP.TOTL
1      Population, total      SP.POP.TOTL
2      Population, total      SP.POP.TOTL
3      Population, total      SP.POP.TOTL
4      Population, total      SP.POP.TOTL
...
261  Yemen, Rep.      YEM      Population, total      SP.POP.TOTL
262  South Africa      ZAF      Population, total      SP.POP.TOTL
263  Zambia      ZMB      Population, total      SP.POP.TOTL
264  Zimbabwe      ZWE      Population, total      SP.POP.TOTL
...
94831  94832.0  94833.0  94834.0  94835.0  94836.0  94837.0  94838.0  94839.0  94840.0  94841.0  94842.0  94843.0  94844.0  94845.0  94846.0  94847.0  94848.0  94849.0  94850.0
94851  94852.0  94853.0  94854.0  94855.0  94856.0  94857.0  94858.0  94859.0  94860.0  94861.0  94862.0  94863.0  94864.0  94865.0  94866.0  94867.0  94868.0  94869.0  94870.0
94871  94872.0  94873.0  94874.0  94875.0  94876.0  94877.0  94878.0  94879.0  94880.0  94881.0  94882.0  94883.0  94884.0  94885.0  94886.0  94887.0  94888.0  94889.0  94890.0
94891  94892.0  94893.0  94894.0  94895.0  94896.0  94897.0  94898.0  94899.0  94900.0  94901.0  94902.0  94903.0  94904.0  94905.0  94906.0  94907.0  94908.0  94909.0  94910.0
94911  94912.0  94913.0  94914.0  94915.0  94916.0  94917.0  94918.0  94919.0  94920.0  94921.0  94922.0  94923.0  94924.0  94925.0  94926.0  94927.0  94928.0  94929.0  94930.0
94931  94932.0  94933.0  94934.0  94935.0  94936.0  94937.0  94938.0  94939.0  94940.0  94941.0  94942.0  94943.0  94944.0  94945.0  94946.0  94947.0  94948.0  94949.0  94950.0
94951  94952.0  94953.0  94954.0  94955.0  94956.0  94957.0  94958.0  94959.0  94960.0  94961.0  94962.0  94963.0  94964.0  94965.0  94966.0  94967.0  94968.0  94969.0  94970.0
94971  94972.0  94973.0  94974.0  94975.0  94976.0  94977.0  94978.0  94979.0  94980.0  94981.0  94982.0  94983.0  94984.0  94985.0  94986.0  94987.0  94988.0  94989.0  94990.0
94991  94992.0  94993.0  94994.0  94995.0  94996.0  94997.0  94998.0  94999.0  95000.0  95001.0  95002.0  95003.0  95004.0  95005.0  95006.0  95007.0  95008.0  95009.0  95010.0
95011  95012.0  95013.0  95014.0  95015.0  95016.0  95017.0  95018.0  95019.0  95020.0  95021.0  95022.0  95023.0  95024.0  95025.0  95026.0  95027.0  95028.0  95029.0  95030.0
95031  95032.0  95033.0  95034.0  95035.0  95036.0  95037.0  95038.0  95039.0  95040.0  95041.0  95042.0  95043.0  95044.0  95045.0  95046.0  95047.0  95048.0  95049.0  95050.0
95051  95052.0  95053.0  95054.0  95055.0  95056.0  95057.0  95058.0  95059.0  95060.0  95061.0  95062.0  95063.0  95064.0  95065.0  95066.0  95067.0  95068.0  95069.0  95070.0
95071  95072.0  95073.0  95074.0  95075.0  95076.0  95077.0  95078.0  95079.0  95080.0  95081.0  95082.0  95083.0  95084.0  95085.0  95086.0  95087.0  95088.0  95089.0  95090.0
95091  95092.0  95093.0  95094.0  95095.0  95096.0  95097.0  95098.0  95099.0  95100.0  95101.0  95102.0  95103.0  95104.0  95105.0  95106.0  95107.0  95108.0  95109.0  95110.0
95111  95112.0  95113.0  95114.0  95115.0  95116.0  95117.0  95118.0  95119.0  95120.0  95121.0  95122.0  95123.0  95124.0  95125.0  95126.0  95127.0  95128.0  95129.0  95130.0
95131  95132.0  95133.0  95134.0  95135.0  95136.0  95137.0  95138.0  95139.0  95140.0  95141.0  95142.0  95143.0  95144.0  95145.0  95146.0  95147.0  95148.0  95149.0  95150.0
95151  95152.0  95153.0  95154.0  95155.0  95156.0  95157.0  95158.0  95159.0  95160.0  95161.0  95162.0  95163.0  95164.0  95165.0  95166.0  95167.0  95168.0  95169.0  95170.0
95171  95172.0  95173.0  95174.0  95175.0  95176.0  95177.0  95178.0  95179.0  95180.0  95181.0  95182.0  95183.0  95184.0  95185.0  95186.0  95187.0  95188.0  95189.0  95190.0
95191  95192.0  95193.0  95194.0  95195.0  95196.0  95197.0  95198.0  95199.0  95200.0  95201.0  95202.0  95203.0  95204.0  95205.0  95206.0  95207.0  95208.0  95209.0  95210.0
95211  95212.0  95213.0  95214.0  95215.0  95216.0  95217.0  95218.0  95219.0  95220.0  95221.0  95222.0  95223.0  95224.0  95225.0  95226.0  95227.0  95228.0  95229.0  95230.0
95231  95232.0  95233.0  95234.0  95235.0  95236.0  95237.0  95238.0  95239.0  95240.0  95241.0  95242.0  95243.0  95244.0  95245.0  95246.0  95247.0  95248.0  95249.0  95250.0
95251  95252.0  95253.0  95254.0  95255.0  95256.0  95257.0  95258.0  95259.0  95260.0  95261.0  95262.0  95263.0  95264.0  95265.0  95266.0  95267.0  95268.0  95269.0  95270.0
95271  95272.0  95273.0  95274.0  95275.0  95276.0  95277.0  95278.0  95279.0  95280.0  95281.0  95282.0  95283.0  95284.0  95285.0  95286.0  95287.0  95288.0  95289.0  95290.0
95291  95292.0  95293.0  95294.0  95295.0  95296.0  95297.0  95298.0  95299.0  95300.0  95301.0  95302.0  95303.0  95304.0  95305.0  95306.0  95307.0  95308.0  95309.0  95310.0
95311  95312.0  95313.0  95314.0  95315.0  95316.0  95317.0  95318.0  95319.0  95320.0  95321.0  95322.0  95323.0  95324.0  95325.0  95326.0  95327.0  95328.0  95329.0  95330.0
95331  95332.0  95333.0  95334.0  95335.0  95336.0  95337.0  95338.0  95339.0  95340.0  95341.0  95342.0  95343.0  95344.0  95345.0  95346.0  95347.0  95348.0  95349.0  95350.0
95351  95352.0  95353.0  95354.0  95355.0  95356.0  95357.0  95358.0  95359.0  95360.0  95361.0  95362.0  95363.0  95364.0  95365.0  95366.0  95367.0  95368.0  95369.0  95370.0
95371  95372.0  95373.0  95374.0  95375.0  95376.0  95377.0  95378.0  95379.0  95380.0  95381.0  95382.0  95383.0  95384.0  95385.0  95386.0  95387.0  95388.0  95389.0  95390.0
95391  95392.0  95393.0  95394.0  95395.0  95396.0  95397.0  95398.0  95399.0  95400.0  95401.0  95402.0  95403.0  95404.0  95405.0  95406.0  95407.0  95408.0  95409.0  95410.0
95411  95412.0  95413.0  95414.0  95415.0  95416.0  95417.0  95418.0  95419.0  95420.0  95421.0  95422.0  95423.0  95424.0  95425.0  95426.0  95427.0  95428.0  95429.0  95430.0
95431  95432.0  95433.0  95434.0  95435.0  95436.0  95437.0  95438.0  95439.0  95440.0  95441.0  95442.0  95443.0  95444.0  95445.0  95446.0  95447.0  95448.0  95449.0  95450.0
95451  95452.0  95453.0  95454.0  95455.0  95456.0  95457.0  95458.0  95459.0  95460.0  95461.0  95462.0  95463.0  95464.0  95465.0  95466.0  95467.0  95468.0  95469.0  95470.0
95471  95472.0  95473.0  95474.0  95475.0  95476.0  95477.0  95478.0  95479.0  95480.0  95481.0  95482.0  95483.0  95484.0  95485.0  95486.0  95487.0  95488.0  95489.0  95490.0
95491  95492.0  95493.0  95494.0  95495.0  95496.0  95497.0  95498.0  95499.0  95500.0  95501.0  95502.0  95503.0  95504.0  95505.0  95506.0  95507.0  95508.0  95509.0  95510.0
95511  95512.0  95513.0  95514.0  95515.0  95516.0  95517.0  95518.0  95519.0  95520.0  95521.0  95522.0  95523.0  95524.0  95525.0  95526.0  95527.0  95528.0  95529.0  95530.0
95531  95532.0  95533.0  95534.0  95535.0  95536.0  95537.0  95538.0  95539.0  95540.0  95541.0  95542.0  95543.0  95544.0  95545.0  95546.0  95547.0  95548.0  95549.0  95550.0
95551  95552.0  95553.0  95554.0  95555.0  95556.0  95557.0  95558.0  95559.0  95560.0  95561.0  95562.0  95563.0  95564.0  95565.0  95566.0  95567.0  95568.0  95569.0  95570.0
95571  95572.0  95573.0  95574.0  95575.0  95576.0  95577.0  95578.0  95579.0  95580.0  95581.0  95582.0  95583.0  95584.0  95585.0  95586.0  95587.0  95588.0  95589.0  95590.0
95591  95592.0  95593.0
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