# WORLD POPULATION PROJECT- R PROGRAMMING

```
R version 4.3.1 (2023-06-16 ucrt) -- "Beagle Scouts"
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Platform: x86_64-w64-mingw32/x64 (64-bit)

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> install.packages("tidyverse")

WARNING: Rtools is required to build R packages but is not currently installed. Please
download and install the appropriate version of Rtools before proceeding:

https://cran.rstudio.com/bin/windows/Rtools/
Installing package into 'C:/Users/Admin/AppData/Local/R/win-library/4.3'
(as 'lib' is unspecified)
trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.3/tidyverse_2.0.0.zip'
Content type 'application/zip' length 430833 bytes (420 KB)
downloaded 420 KB

package 'tidyverse' successfully unpacked and MD5 sums checked

The downloaded binary packages are in
        C:\Users\Admin\AppData\Local\Temp\Rtmp4uvntu\downloaded_packages

INSTALLING pACKAGES

> library(tidyverse)
── Attaching core tidyverse packages ──────────────────────────────────────── tidy
verse 2.0.0 ──
✓ dplyr     1.1.3     ✓ readr     2.1.4
✓ forcats   1.0.0     ✓ stringr   1.5.0
✓ ggplot2   3.4.3     ✓ tibble    3.2.1
✓ lubridate 1.9.2     ✓ tidyr     1.3.0
✓ purrr     1.0.2
── Conflicts ──────────────────────────────────────────────────────── tidyverse_
conflicts() ──
✖ dplyr::filter() masks stats::filter()
✖ dplyr::lag()    masks stats::lag()
ℹ Use the conflicted package to force all conflicts to become errors


> world_population <- read_excel("C:/Users/Admin/Desktop/world_population.xlsx")

VIEWING DATA
> View(world_population)

VIEWING A SUMMARY OF THE DATA

> summary(world_population)
      Rank            CCA3           Country/Territory    Capital           Continent
```

```
 Min.   :  1.00   Length:234         Length:234         Length:234         Length:234
 1st Qu.: 59.25   Class :character   Class :character   Class :character   Class :char
acter
 Median :117.50   Mode  :character   Mode  :character   Mode  :character   Mode  :char
acter
 Mean   :117.50
 3rd Qu.:175.75
 Max.   :234.00
 2022 Population     2020 Population     2015 Population     2010 Population
 Min.   :5.100e+02   Min.   :5.200e+02   Min.   :5.640e+02   Min.   :5.960e+02
 1st Qu.:4.197e+05   1st Qu.:4.153e+05   1st Qu.:4.047e+05   1st Qu.:3.931e+05
 Median :5.560e+06   Median :5.493e+06   Median :5.307e+06   Median :4.943e+06
 Mean   :3.407e+07   Mean   :3.350e+07   Mean   :3.173e+07   Mean   :2.985e+07
 3rd Qu.:2.248e+07   3rd Qu.:2.145e+07   3rd Qu.:1.973e+07   3rd Qu.:1.916e+07
 Max.   :1.426e+09   Max.   :1.425e+09   Max.   :1.394e+09   Max.   :1.348e+09
 2000 Population     1990 Population     1980 Population     1970 Population      Area
(kmÂ²)
 Min.   :6.510e+02   Min.   :7.000e+02   Min.   :      733   Min.   :      752   Min.
:       1
 1st Qu.:3.272e+05   1st Qu.:2.641e+05   1st Qu.:   229614   1st Qu.:   155997   1st Q
u.:    2650
 Median :4.293e+06   Median :3.825e+06   Median :  3141146   Median :  2604830   Media
n :   81200
 Mean   :2.627e+07   Mean   :2.271e+07   Mean   : 18984617   Mean   : 15786909   Mean
:  581449
 3rd Qu.:1.576e+07   3rd Qu.:1.187e+07   3rd Qu.:  9826054   3rd Qu.:  8817329   3rd Q
u.:  430426
 Max.   :1.264e+09   Max.   :1.154e+09   Max.   :982372466   Max.   :822534450   Max.
:17098242
 Density (per kmÂ²)   Growth Rate    World Population Percentage
 Min.   :    0.026   Min.   :0.912   Min.   : 0.0000
 1st Qu.:   38.418   1st Qu.:1.002   1st Qu.: 0.0100
 Median :   95.347   Median :1.008   Median : 0.0700
 Mean   :  452.127   Mean   :1.010   Mean   : 0.4271
 3rd Qu.:  238.933   3rd Qu.:1.017   3rd Qu.: 0.2800
 Max.   :23172.267   Max.   :1.069   Max.   :17.8800
```

RENAMING CCA3 COLUMN TO COUNTRY CODE ABBREVIATION

```
> rename(world_population, Country_Code_Abbreviation=CCA3)
# A tibble: 234 × 17
    Rank Country_Code_Abbreviation `Country/Territory` Capital          Continent  `20
22 Population`
   <dbl> <chr>                     <chr>               <chr>            <chr>
<dbl>
 1    36 AFG                       Afghanistan         Kabul            Asia
41128771
 2   138 ALB                       Albania             Tirana           Europe
2842321
 3    34 DZA                       Algeria             Algiers          Africa
44903225
 4   213 ASM                       American Samoa      Pago Pago        Oceania
44273
 5   203 AND                       Andorra             Andorra la Vella Europe
79824
 6    42 AGO                       Angola              Luanda           Africa
35588987
 7   224 AIA                       Anguilla            The Valley       North Ame…
15857
 8   201 ATG                       Antigua and Barbuda Saint Johnâ€™s   North Ame…
93763
 9    33 ARG                       Argentina           Buenos Aires     South Ame…
45510318
```

```
10   140 ARM                        Armenia             Yerevan          Asia
2780469
```

GETTING THE TOTAL POPULATION IN THE WORLD IN 2022

```
> year_2022_summary<- world_population %>% group_by('Continent') %>% summarise(year_20
22=sum(`2022 Population`))

> year_2022_summary
# A tibble: 1 × 2
  `"Continent"`  year_2022
  <chr>                <dbl>
1 Continent     7973413042
```

TOTAL POPULATION SUMMARY IN EVERY CONTINENT PER YEAR

```
> world_population_summary<- world_population %>% group_by(Continent) %>% summarise(ye
ar_2022=sum(`2022 Population`),year_2020=sum(`2020 Population`),year_2015=sum(`2015 Po
pulation`),year_2010=sum(`2010 Population`),year_2000=sum(`2000 Population`), year_199
0=sum(`1990 Population`),year_1980=sum(`1980 Population`),year_1970=sum(`1970 Populati
on`))
> world_population_summary
# A tibble: 6 × 9
  Continent      year_2022  year_2020  year_2015  year_2010  year_2000 year_1990 year_
1980 year_1970

1 Africa        1426730932 1360671810 1201102442 1055228072  818946032    6.38e8    4.
82e8    3.65e8
2 Asia          4721383274 4663086535 4458250182 4220041327 3735089604    3.21e9    2.
64e9    2.14e9
3 Europe         743147538  745792196  741535608  735613934  726093423    7.20e8    6.
93e8    6.56e8
4 North America  600296136  594236593  570383850  542720651  486069584    4.21e8    3.
68e8    3.15e8
5 Oceania         45038554   43933426   40403283   37102764   31222778    2.67e7    2.
29e7    1.95e7
6 South America  436816608  431530043  413134396  393078250  349634282    2.97e8    2.
42e8    1.93e8
```

RANKING EACH COUNTRY'S POPULATION IN THE YEAR 2022 IN AFRICA

```
> population_rank_Africa <- world_population[order(world_population$`2022 Population`)
, ] %>% filter(Continent == 'Africa')
> population_rank_Africa
# A tibble: 57 × 17
    Rank CCA3  `Country/Territory`   Capital     Continent `2022 Population` `2020 Pop
ulation`

 1   196 SYC   Seychelles            Victoria    Africa               107118
105530
 2   187 STP   Sao Tome and Principe SÃ£o TomÃ©  Africa               227380
218641
 3   182 MYT   Mayotte              Mamoudzou   Africa               326101
305587
 4   172 ESH   Western Sahara       El AaiÃºn   Africa               575986
556048
 5   171 CPV   Cape Verde           Praia       Africa               593149
582640
 6   163 COM   Comoros              Moroni      Africa               836774
806166
 7   161 REU   Reunion              Saint-Denis Africa               974052
957822
```

```
 8   160 DJI   Djibouti             Djibouti    Africa              1120849
1090156
 9   159 SWZ   Eswatini             Mbabane     Africa              1201670
1180655
10   157 MUS   Mauritius            Port Louis  Africa              1299469
1297828
```

RANKING EACH COUNTRY'S POPULATION IN THE YEAR 2022 IN AFRICA USING RANK COLUMN IN ASCENDING ORDER

```
> population_rank_Africa_asc <- world_population[order(world_population$`Rank`), decreasing= TRUE] %>% filter(Continent == 'Africa')
> population_rank_Africa_asc
# A tibble: 57 × 17
    Rank CCA3  `Country/Territory` Capital     Continent `2022 Population` `2020 Population`
   <dbl> <chr> <chr>               <chr>       <chr>                 <dbl>              <dbl>
 1     6 NGA   Nigeria             Abuja       Africa            218541212          208327405
 2    12 ETH   Ethiopia            Addis Ababa Africa            123379924          117190911
 3    14 EGY   Egypt               Cairo       Africa            110990103          107465134
 4    15 COD   DR Congo            Kinshasa    Africa             99010212           92853164
 5    22 TZA   Tanzania            Dodoma      Africa             65497748           61704518
 6    24 ZAF   South Africa        Pretoria    Africa             59893885           58801927
 7    27 KEN   Kenya               Nairobi     Africa             54027487           51985780
 8    31 UGA   Uganda              Kampala     Africa             47249585           44404611
 9    32 SDN   Sudan               Khartoum    Africa             46874204           44440486
10    34 DZA   Algeria             Algiers     Africa             44903225           43451666
```

```
> view(world_population)
```

ANALYSING COUNTRIES WITH HIGHEST POPULATION IN THE WORLD

```
> population_ranking<- world_population[order(world_population$'Rank'), ] %>% group_by(Continent)
> population_ranking
# A tibble: 234 × 17
# Groups:   Continent [6]
    Rank CCA3  `Country/Territory` Capital          Continent     `2022 Population` `2020 Population`
   <dbl> <chr> <chr>               <chr>            <chr>                     <dbl>              <dbl>
 1     1 CHN   China               Beijing          Asia                 1425887337         1424929781
 2     2 IND   India               New Delhi        Asia                 1417173173         1396387127
 3     3 USA   United States       Washington, D.C. North Ameri…          338289857          335942003
 4     4 IDN   Indonesia           Jakarta          Asia                  275501339          271857970
```

```
 5     5 PAK   Pakistan            Islamabad       Asia                235824862
227196741
 6     6 NGA   Nigeria             Abuja           Africa              218541212
208327405
 7     7 BRA   Brazil              Brasilia        South Ameri…        215313498
213196304
 8     8 BGD   Bangladesh          Dhaka           Asia                171186372
167420951
 9     9 RUS   Russia              Moscow          Europe              144713314
145617329
10    10 MEX   Mexico              Mexico City     North Ameri…        127504125
125998302
```

HIGHEST POPULATION RANKING IN ASIA

```
> population_rank_Asia <- world_population[order(world_population$`Rank`), decreasing=
TRUE] %>% filter(Continent == 'Asia')
> population_rank_Asia
# A tibble: 50 × 17
    Rank CCA3  `Country/Territory` Capital   Continent `2022 Population` `2020 Populat
ion`
   <dbl> <chr> <chr>               <chr>     <chr>                 <dbl>            <
dbl>
 1     1 CHN   China               Beijing   Asia             1425887337       142492
9781
 2     2 IND   India               New Delhi Asia             1417173173       139638
7127
 3     4 IDN   Indonesia           Jakarta   Asia              275501339        27185
7970
 4     5 PAK   Pakistan            Islamabad Asia              235824862        22719
6741
 5     8 BGD   Bangladesh          Dhaka     Asia              171186372        16742
0951
 6    11 JPN   Japan               Tokyo     Asia              123951692        12524
4761
 7    13 PHL   Philippines         Manila    Asia              115559009        11219
0977
 8    16 VNM   Vietnam             Hanoi     Asia               98186856         9664
8685
 9    17 IRN   Iran                Tehran    Asia               88550570         8729
0193
10    18 TUR   Turkey              Ankara    Asia               85341241         8413
5428
```

HIGHEST POPULATION RANKING IN EUROPE

```
> population_rank_Europe <- world_population[order(world_population$`Rank`), decreasin
g= TRUE] %>% filter(Continent == 'Europe')
> population_rank_Europe
# A tibble: 50 × 17
    Rank CCA3  `Country/Territory` Capital   Continent `2022 Population` `2020 Populat
ion`
   <dbl> <chr> <chr>               <chr>     <chr>                 <dbl>            <
dbl>
 1     9 RUS   Russia              Moscow    Europe            144713314        14561
7329
 2    19 DEU   Germany             Berlin    Europe             83369843         8332
8988
 3    21 GBR   United Kingdom      London    Europe             67508936         6705
9474
 4    23 FRA   France              Paris     Europe             64626628         6448
0053
```

```
  5    25 ITA   Italy              Rome       Europe              59037474          5950
0579
  6    30 ESP   Spain              Madrid     Europe              47558630          4736
3807
  7    37 POL   Poland             Warsaw     Europe              39857145          3842
8366
  8    38 UKR   Ukraine            Kiev       Europe              39701739          4390
9666
  9    64 ROU   Romania            Bucharest  Europe              19659267          1944
2038
 10    71 NLD   Netherlands        Amsterdam  Europe              17564014          1743
4557
```

HIGHEST POPULATION RANKING IN OCEANIA

```
> population_rank_Oceania <- world_population[order(world_population$`Rank`), decreasi
ng= TRUE] %>% filter(Continent == 'Europe')
> population_rank_Oceania <- world_population[order(world_population$`Rank`), decreasi
ng= TRUE] %>% filter(Continent == 'Oceania')
> population_rank_Oceania
# A tibble: 23 × 17
    Rank CCA3  `Country/Territory` Capital      Continent `2022 Population` `2020 Popu
lation`
   <dbl> <chr> <chr>               <chr>        <chr>                 <dbl>
<dbl>
 1    55 AUS   Australia           Canberra     Oceania            26177413          2
5670051
 2    93 PNG   Papua New Guinea    Port Moresby Oceania            10142619
9749640
 3   123 NZL   New Zealand         Wellington   Oceania             5185288
5061133
 4   162 FJI   Fiji                Suva         Oceania              929766
920422
 5   166 SLB   Solomon Islands     Honiara      Oceania              724273
691191
 6   181 VUT   Vanuatu             Port-Vila    Oceania              326740
311685
 7   183 PYF   French Polynesia    Papeete      Oceania              306279
301920
 8   185 NCL   New Caledonia       NoumÃ©a      Oceania              289950
286403
 9   188 WSM   Samoa               Apia         Oceania              222382
214929
10   191 GUM   Guam                HagÃ¥tÃ±a     Oceania              171774
169231
```

HIGHEST POPULATION RANKING IN NORTH AMERICA

```
> population_rank_North_America <- world_population[order(world_population$`Rank`), de
creasing= TRUE] %>% filter(Continent == 'North America')
> population_rank_North_America
# A tibble: 40 × 17
    Rank CCA3  `Country/Territory` Capital          Continent    `2022 Population` `20
20 Population`
   <dbl> <chr> <chr>               <chr>            <chr>                    <dbl>
<dbl>
 1     3 USA   United States       Washington, D.C. North Ameri…         338289857
335942003
 2    10 MEX   Mexico              Mexico City      North Ameri…         127504125
125998302
```

```
  3    39 CAN   Canada              Ottawa          North Ameri…        38454327
37888705
  4    68 GTM   Guatemala           Guatemala City  North Ameri…        17843908
17362718
  5    82 HTI   Haiti               Port-au-Prince  North Ameri…        11584996
11306801
  6    84 DOM   Dominican Republic  Santo Domingo   North Ameri…        11228821
10999664
  7    85 CUB   Cuba                Havana          North Ameri…        11212191
11300698
  8    89 HND   Honduras            Tegucigalpa     North Ameri…        10432860
10121763
  9   106 NIC   Nicaragua           Managua         North Ameri…         6948392
6755895
 10   112 SLV   El Salvador         San Salvador    North Ameri…         6336392
6292731
```

HIGHEST POPULATION RANKING IN SOUTH AMERICA

```
> population_rank_South_America <- world_population[order(world_population$`Rank`), de
creasing= TRUE] %>% filter(Continent == 'South America')
> population_rank_South_America
# A tibble: 14 × 17
    Rank CCA3  `Country/Territory` Capital      Continent     `2022 Population` `2020
Population`
   <dbl> <chr> <chr>               <chr>        <chr>                     <dbl>
<dbl>
 1     7 BRA   Brazil              Brasilia     South America         215313498
213196304
 2    28 COL   Colombia            Bogota       South America          51874024
50930662
 3    33 ARG   Argentina           Buenos Aires South America          45510318
45036032
 4    44 PER   Peru                Lima         South America          34049588
33304756
 5    51 VEN   Venezuela           Caracas      South America          28301696
28490453
 6    65 CHL   Chile               Santiago     South America          19603733
19300315
 7    67 ECU   Ecuador             Quito        South America          18001000
17588595
 8    80 BOL   Bolivia             Sucre        South America          12224110
11936162
 9   109 PRY   Paraguay            AsunciÃ³n    South America           6780744
6618695
10   133 URY   Uruguay             Montevideo   South America           3422794
3429086
11   164 GUY   Guyana              Georgetown   South America            808726
797202
12   170 SUR   Suriname            Paramaribo   South America            618040
607065
13   184 GUF   French Guiana       Cayenne      South America            304557
290969
14   231 FLK   Falkland Islands    Stanley      South America              3780
3747
```

GROWTH RATE RANKING

```
> Growth_rate_rank_world_wide<-world_population[order(world_population$'Growth Rate'),
]
> Growth_rate_rank_world_wide
# A tibble: 234 × 17
```

```
    Rank CCA3  `Country/Territory`    Capital   Continent `2022 Population` `2020 Popu
lation`
   <dbl> <chr> <chr>                 <chr>     <chr>                  <dbl>
<dbl>
 1    38 UKR   Ukraine               Kiev      Europe              39701739          4
3909666
 2   119 LBN   Lebanon               Beirut    Asia                 5489739
5662923
 3   213 ASM   American Samoa         Pago Pago Oceania               44273
46189
 4   108 BGR   Bulgaria              Sofia     Europe              6781953
6979175
 5   141 LTU   Lithuania             Vilnius   Europe              2750055
2820267
 6   151 LVA   Latvia                Riga      Europe              1850651
1897052
 7   137 BIH   Bosnia and Herzegovina Sarajevo Europe              3233526
3318407
 8   215 MHL   Marshall Islands      Majuro    Oceania               41569
43413
 9   105 SRB   Serbia                Belgrade  Europe              7221365
7358005
10   130 HRV   Croatia               Zagreb    Europe              4030358
4096868
```

RETRIEVING UKRAINE DATA

```
> Ukraine <- world_population %>% filter(`Country/Territory` == 'Ukraine')

> Ukraine
# A tibble: 1 × 17
   Rank CCA3  `Country/Territory` Capital Continent `2022 Population` `2020 Population
`
  <dbl> <chr> <chr>               <chr>   <chr>                 <dbl>              <dbl
>
1    38 UKR   Ukraine             Kiev    Europe             39701739           4390966
6
```

GROWTH RATE RANKING DESCENDING ORDER

```
> Highest_Growth_rate_rank_world_wide <- world_population[order(world_population$`Grow
th Rate`, decreasing = TRUE), ]

> Highest_Growth_rate_rank_world_wide
# A tibble: 234 × 17
    Rank CCA3  `Country/Territory` Capital    Continent `2022 Population` `2020 Popula
tion`
   <dbl> <chr> <chr>               <chr>      <chr>                 <dbl>
<dbl>
 1   135 MDA   Moldova             Chisinau   Europe              3272996           30
84847
 2    37 POL   Poland              Warsaw     Europe             39857145           384
28366
 3    54 NER   Niger               Niamey     Africa             26207977           243
33639
 4    60 SYR   Syria               Damascus   Asia               22125249           207
72595
 5   116 SVK   Slovakia            Bratislava Europe              5643453           54
56681
 6    15 COD   DR Congo            Kinshasa   Africa             99010212           928
53164
 7   182 MYT   Mayotte             Mamoudzou  Africa               326101           3
05587
```

```
 8    69 TCD   Chad                N'Djamena  Africa              17723315          166
44701
 9    42 AGO   Angola              Luanda     Africa              35588987          334
28485
10    59 MLI   Mali                Bamako     Africa              22593590          212
24040
```

COUNTRY WITH THE HIGHEST PERCENTAGE OF THE POPULATION

```
> Highest_Percentage_world_wide <- world_population[order(world_population$`World Popu
lation Percentage`, decreasing = TRUE), ]
> Highest_Percentage_world_wide
# A tibble: 234 × 17
    Rank CCA3  `Country/Territory` Capital          Continent    `2022 Population` `20
20 Population`
   <dbl> <chr> <chr>               <chr>            <chr>                    <dbl>
<dbl>
 1     1 CHN   China               Beijing          Asia                1425887337
1424929781
 2     2 IND   India               New Delhi        Asia                1417173173
1396387127
 3     3 USA   United States       Washington, D.C. North Ameri…         338289857
335942003
 4     4 IDN   Indonesia           Jakarta          Asia                 275501339
271857970
 5     5 PAK   Pakistan            Islamabad        Asia                 235824862
227196741
 6     6 NGA   Nigeria             Abuja            Africa               218541212
208327405
 7     7 BRA   Brazil              Brasilia         South Ameri…         215313498
213196304
 8     8 BGD   Bangladesh          Dhaka            Asia                 171186372
167420951
 9     9 RUS   Russia              Moscow           Europe               144713314
145617329
10    10 MEX   Mexico              Mexico City      North Ameri…         127504125
125998302
```

TOTAL WORLD POPULATION PERCENTAGE

```
> total_world_population_percentage <- world_population %>%
    summarise(sum_percentage = sum(`World Population Percentage`))
> total_world_population_percentage
# A tibble: 1 × 1
  sum_percentage
           <dbl>
1           99.9
```

COUNTRY AREA (kmÂ²) RANKING ASCENDING ORDER

```
> Largest_Country_Area<- world_population[order(world_population$`Area (kmÂ²)`),]
> Largest_Country_Area
# A tibble: 234 × 17
    Rank CCA3  `Country/Territory` Capital          Continent    `2022 Population` `20
20 Population`
 1   234 VAT   Vatican City        Vatican City     Europe                   510
520
 2   217 MCO   Monaco              Monaco           Europe                 36469
36922
 3   219 GIB   Gibraltar           Gibraltar        Europe                 32649
32709
```

```
 4   233 TKL   Tokelau              Nukunonu          Oceania                1871
1827
 5   225 NRU   Nauru                Yaren             Oceania               12668
12315
 6   228 BLM   Saint Barthelemy     Gustavia          North Amer…           10967
10681
 7   227 TUV   Tuvalu               Funafuti          Oceania               11312
11069
 8   167 MAC   Macau                Concelho de Macau Asia                 695168
676283
 9   214 SXM   Sint Maarten         Philipsburg       North Amer…           44175
43621
10   220 MAF   Saint Martin         Marigot           North Amer…           31791
32552
```

COUNTRY AREA (kmÂ²) RANKING DESCENDING ORDER

```
> Largest_Country_Area<- world_population[order(world_population$`Area (kmÂ²)`, decrea
sing = TRUE), ]
> Largest_Country_Area
# A tibble: 234 × 17
    Rank CCA3  `Country/Territory` Capital          Continent     `2022 Population` `20
20 Population`

 1     9 RUS   Russia              Moscow           Europe              144713314
145617329
 2    39 CAN   Canada              Ottawa           North Ameri…         38454327
37888705
 3     1 CHN   China               Beijing          Asia               1425887337
1424929781
 4     3 USA   United States       Washington, D.C. North Ameri…        338289857
335942003
 5     7 BRA   Brazil              Brasilia         South Ameri…        215313498
213196304
 6    55 AUS   Australia           Canberra         Oceania              26177413
25670051
 7     2 IND   India               New Delhi        Asia               1417173173
1396387127
 8    33 ARG   Argentina           Buenos Aires     South Ameri…         45510318
45036032
 9    66 KAZ   Kazakhstan          Nursultan        Asia                 19397998
18979243
10    34 DZA   Algeria             Algiers          Africa               44903225
43451666
```

LARGEST CONTINENT

```
> Largest_Continent <- world_population %>%
    arrange(desc(`Area (kmÂ²)`)) %>%
     group_by(Continent) %>%
    summarise(total_area = sum(`Area (kmÂ²)`))
> Largest_Continent
# A tibble: 6 × 2
  Continent     total_area
  <chr>              <dbl>
1 Africa          30317963
2 Asia            32138141
3 Europe          23010411
4 North America   24244178
5 Oceania          8515081
6 South America   17833382
```

LARGEST CONTINENT(Density (per kmÂ²))

```
> Continent_Ranking_Per_Density <- world_population %>%
              arrange(desc(`Density (per kmÂ²)`)) %>%
             group_by(Continent) %>%
              summarise(total_area = sum(`Density (per kmÂ²)`))
> Continent_Ranking_Per_Density
# A tibble: 6 × 2
  Continent     total_area
  <chr>              <dbl>
1 Africa              7128.
2 Asia               51251.
3 Europe             33166.
4 North America      10910.
5 Oceania             3048.
6 South America        294.
```

VISUALIZING DATA USING POLYGON

```
> library(ggplot2)
> ggplot(data = world_population)+geom_polygon(mapping =aes(x=country, y=2022 Populati
on) )
```

VISUALIZING DATA USING BAR CHART

```
> ggplot(data = world_population) +
    geom_bar(mapping = aes(x = `Country/Territory`, y = `2022 Population`), stat = "id
entity") +
     theme(axis.text.x = element_text(angle = 45, hjust = 1))  # Rotates x-axis labels
for readability

> ggplot(data = world_population) +
     geom_bar(mapping = aes(x = `Continent`, y = `2022 Population`)
```