Exploratory Data Analysis

Luke

Tables for Mortality Rates

Top 3 highest and lowest values of Average Infant Mortality (2000-2019) by countries per region

```r
library(ggplot2)
finaldata <- source("Armed Conflict/R/merge_datasets.R")$value
```

Warning: package 'dplyr' was built under R version 4.3.3

Attaching package: 'dplyr'

The following objects are masked from 'package:stats':

    filter, lag

The following objects are masked from 'package:base':

    intersect, setdiff, setequal, union

Warning: package 'tidyr' was built under R version 4.3.3

Warning: package 'countrycode' was built under R version 4.3.3

Warning: Some values were not matched unambiguously: Africa Eastern and Southern, Africa West

`summarise()` has grouped output by 'Year'. You can override using the
`.groups` argument.

`summarise()` has grouped output by 'year'. You can override using the
`.groups` argument.

```r
finaldata <- finaldata %>%
  mutate(Infant_Mortality_Rate = as.numeric(Infant_Mortality_Rate)) %>%
  filter(!is.na(Infant_Mortality_Rate))

# Group by region and country_name and find average Infant Mortality Rate
country_mortality_summary <- finaldata %>%
  group_by(region, country_name) %>%
  summarise(avg_infant_mortality = mean(Infant_Mortality_Rate, na.rm = TRUE)) %>%
  ungroup()
```

`summarise()` has grouped output by 'region'. You can override using the
`.groups` argument.

```r
# top 5 countries with highest and lowest IMR / region
top_3_highest <- country_mortality_summary %>%
  group_by(region) %>%
  slice_max(avg_infant_mortality, n = 3) %>%
  ungroup()

top_3_lowest <- country_mortality_summary %>%
  group_by(region) %>%
  slice_min(avg_infant_mortality, n = 3) %>%
  ungroup()

# Combine the top highest and lowest into one table
top_3_combined <- bind_rows(
  top_3_highest %>% mutate(category = "Highest"),
  top_3_lowest %>% mutate(category = "Lowest")
)

# Split the combined table into separate tables per region
tables_per_region <- split(top_3_combined, top_3_combined$region)

# Print each table separately
lapply(names(tables_per_region), function(region_name) {
  cat("\nRegion:", region_name, "\n")
  print(tables_per_region[[region_name]])
})
```

```
Region: Australia and New Zealand
# A tibble: 4 x 4
  region                   country_name avg_infant_mortality category
  <chr>                    <chr>                       <dbl> <chr>
1 Australia and New Zealand New Zealand                  5.09 Highest
2 Australia and New Zealand Australia                    4.09 Highest
3 Australia and New Zealand Australia                    4.09 Lowest
4 Australia and New Zealand New Zealand                  5.09 Lowest

Region: Central Asia
# A tibble: 6 x 4
  region       country_name avg_infant_mortality category
  <chr>        <chr>                       <dbl> <chr>
1 Central Asia Tajikistan                   41.7 Highest
2 Central Asia Turkmenistan                 41.5 Highest
3 Central Asia Uzbekistan                   28.7 Highest
4 Central Asia Kazakhstan                   20.2 Lowest
5 Central Asia Kyrgyzstan                   27.8 Lowest
6 Central Asia Uzbekistan                   28.7 Lowest

Region: Eastern Asia
# A tibble: 6 x 4
  region       country_name avg_infant_mortality category
  <chr>        <chr>                       <dbl> <chr>
1 Eastern Asia Mongolia                    26.3  Highest
2 Eastern Asia North Korea                 23.8  Highest
3 Eastern Asia China                       14.9  Highest
4 Eastern Asia Japan                        2.44 Lowest
5 Eastern Asia South Korea                  4.03 Lowest
6 Eastern Asia China                       14.9  Lowest

Region: Eastern Europe
# A tibble: 6 x 4
  region         country_name   avg_infant_mortality category
  <chr>          <chr>                         <dbl> <chr>
1 Eastern Europe Moldova                       16.3  Highest
2 Eastern Europe Romania                       11.6  Highest
3 Eastern Europe Ukraine                       10.7  Highest
4 Eastern Europe Czech Republic                 3.10 Lowest
5 Eastern Europe Belarus                        5.16 Lowest
6 Eastern Europe Hungary                        5.50 Lowest
```

```
Region: Latin America and the Caribbean
# A tibble: 6 x 4
  region                          country_name     avg_infant_mortality category
  <chr>                           <chr>                           <dbl> <chr>
1 Latin America and the Caribbean Haiti                           62.1  Highest
2 Latin America and the Caribbean Bolivia                         35.6  Highest
3 Latin America and the Caribbean Guyana                          30.8  Highest
4 Latin America and the Caribbean Cuba                             5.32 Lowest
5 Latin America and the Caribbean Chile                            7.40 Lowest
6 Latin America and the Caribbean Antigua and Bar~                 8.76 Lowest

Region: Melanesia
# A tibble: 6 x 4
  region    country_name     avg_infant_mortality category
  <chr>     <chr>                           <dbl> <chr>
1 Melanesia Papua New Guinea                 45.3 Highest
2 Melanesia Vanuatu                          23.6 Highest
3 Melanesia Solomon Islands                  22.0 Highest
4 Melanesia Fiji                             20.2 Lowest
5 Melanesia Solomon Islands                  22.0 Lowest
6 Melanesia Vanuatu                          23.6 Lowest

Region: Micronesia
# A tibble: 6 x 4
  region     country_name                  avg_infant_mortality category
  <chr>      <chr>                                        <dbl> <chr>
1 Micronesia Kiribati                                      47.6 Highest
2 Micronesia Marshall Islands                              31.2 Highest
3 Micronesia Federated States of Micronesia                26.7 Highest
4 Micronesia Federated States of Micronesia                26.7 Lowest
5 Micronesia Marshall Islands                              31.2 Lowest
6 Micronesia Kiribati                                      47.6 Lowest

Region: Northern Africa
# A tibble: 6 x 4
  region          country_name avg_infant_mortality category
  <chr>           <chr>                       <dbl> <chr>
1 Northern Africa Sudan                        52.4 Highest
2 Northern Africa Morocco                      28.7 Highest
3 Northern Africa Algeria                      25.5 Highest
4 Northern Africa Libya                        16.0 Lowest
5 Northern Africa Tunisia                      17.4 Lowest
6 Northern Africa Egypt                        25.4 Lowest
```

```
Region: Northern America
# A tibble: 4 x 4
  region           country_name  avg_infant_mortality category
  <chr>            <chr>                        <dbl> <chr>
1 Northern America United States                 6.30 Highest
2 Northern America Canada                        4.96 Highest
3 Northern America Canada                        4.96 Lowest
4 Northern America United States                 6.30 Lowest

Region: Northern Europe
# A tibble: 6 x 4
  region          country_name   avg_infant_mortality category
  <chr>           <chr>                         <dbl> <chr>
1 Northern Europe Latvia                         6.86 Highest
2 Northern Europe Lithuania                      5.56 Highest
3 Northern Europe United Kingdom                 4.54 Highest
4 Northern Europe Iceland                        2.26 Lowest
5 Northern Europe Finland                        2.61 Lowest
6 Northern Europe Sweden                         2.68 Lowest

Region: Polynesia
# A tibble: 4 x 4
  region    country_name avg_infant_mortality category
  <chr>     <chr>                       <dbl> <chr>
1 Polynesia Samoa                        16.5 Highest
2 Polynesia Tonga                        11.8 Highest
3 Polynesia Tonga                        11.8 Lowest
4 Polynesia Samoa                        16.5 Lowest

Region: South-eastern Asia
# A tibble: 6 x 4
  region            country_name avg_infant_mortality category
  <chr>             <chr>                       <dbl> <chr>
1 South-eastern Asia Timor-Leste                56.0  Highest
2 South-eastern Asia Laos                       54.2  Highest
3 South-eastern Asia Myanmar                    50.6  Highest
4 South-eastern Asia Singapore                   2.33 Lowest
5 South-eastern Asia Malaysia                    7.16 Lowest
6 South-eastern Asia Brunei                      8.27 Lowest

Region: Southern Asia
# A tibble: 6 x 4
```

```
    region          country_name avg_infant_mortality category
    <chr>           <chr>                        <dbl> <chr>
1 Southern Asia Pakistan                          70.3 Highest
2 Southern Asia Afghanistan                       66.6 Highest
3 Southern Asia India                             46.5 Highest
4 Southern Asia Sri Lanka                         10.5 Lowest
5 Southern Asia Maldives                          14.7 Lowest
6 Southern Asia Iran                              18.5 Lowest

Region: Southern Europe
# A tibble: 6 x 4
  region          country_name avg_infant_mortality category
  <chr>           <chr>                        <dbl> <chr>
1 Southern Europe Albania                      13.9  Highest
2 Southern Europe Macedonia                    10.4  Highest
3 Southern Europe Serbia                        7.04 Highest
4 Southern Europe Slovenia                      2.9  Lowest
5 Southern Europe Spain                         3.34 Lowest
6 Southern Europe Italy                         3.48 Lowest

Region: Sub-Saharan Africa
# A tibble: 6 x 4
  region             country_name             avg_infant_mortality category
  <chr>              <chr>                                    <dbl> <chr>
1 Sub-Saharan Africa Sierra Leone                             110.  Highest
2 Sub-Saharan Africa Central African Republic                  97.6 Highest
3 Sub-Saharan Africa Somalia                                   94.2 Highest
4 Sub-Saharan Africa Seychelles                                12.2 Lowest
5 Sub-Saharan Africa Mauritius                                 13.5 Lowest
6 Sub-Saharan Africa Cape Verde                                21.2 Lowest

Region: Western Asia
# A tibble: 6 x 4
  region       country_name         avg_infant_mortality category
  <chr>        <chr>                               <dbl> <chr>
1 Western Asia Yemen                                51.2 Highest
2 Western Asia Azerbaijan                           35.5 Highest
3 Western Asia Iraq                                 29.0 Highest
4 Western Asia Cyprus                                3.28 Lowest
5 Western Asia United Arab Emirates                  7.58 Lowest
6 Western Asia Bahrain                               7.88 Lowest

Region: Western Europe
```

```
# A tibble: 7 x 4
  region         country_name avg_infant_mortality category
  <chr>          <chr>                       <dbl> <chr>
1 Western Europe Switzerland                  4.04 Highest
2 Western Europe Netherlands                  4.01 Highest
3 Western Europe Belgium                      3.79 Highest
4 Western Europe Luxembourg                   2.61 Lowest
5 Western Europe France                       3.34 Lowest
6 Western Europe Austria                      3.64 Lowest
7 Western Europe Germany                      3.64 Lowest


[[1]]
# A tibble: 4 x 4
  region                   country_name avg_infant_mortality category
  <chr>                    <chr>                       <dbl> <chr>
1 Australia and New Zealand New Zealand                 5.09 Highest
2 Australia and New Zealand Australia                   4.09 Highest
3 Australia and New Zealand Australia                   4.09 Lowest
4 Australia and New Zealand New Zealand                 5.09 Lowest


[[2]]
# A tibble: 6 x 4
  region       country_name avg_infant_mortality category
  <chr>        <chr>                       <dbl> <chr>
1 Central Asia Tajikistan                   41.7 Highest
2 Central Asia Turkmenistan                 41.5 Highest
3 Central Asia Uzbekistan                   28.7 Highest
4 Central Asia Kazakhstan                   20.2 Lowest
5 Central Asia Kyrgyzstan                   27.8 Lowest
6 Central Asia Uzbekistan                   28.7 Lowest


[[3]]
# A tibble: 6 x 4
  region       country_name avg_infant_mortality category
  <chr>        <chr>                       <dbl> <chr>
1 Eastern Asia Mongolia                    26.3  Highest
2 Eastern Asia North Korea                 23.8  Highest
3 Eastern Asia China                       14.9  Highest
4 Eastern Asia Japan                        2.44 Lowest
5 Eastern Asia South Korea                  4.03 Lowest
6 Eastern Asia China                       14.9  Lowest
```

```
[[4]]
# A tibble: 6 x 4
  region         country_name    avg_infant_mortality category
  <chr>          <chr>                          <dbl> <chr>
1 Eastern Europe Moldova                        16.3  Highest
2 Eastern Europe Romania                        11.6  Highest
3 Eastern Europe Ukraine                        10.7  Highest
4 Eastern Europe Czech Republic                  3.10 Lowest
5 Eastern Europe Belarus                         5.16 Lowest
6 Eastern Europe Hungary                         5.50 Lowest

[[5]]
# A tibble: 6 x 4
  region                          country_name    avg_infant_mortality category
  <chr>                           <chr>                          <dbl> <chr>
1 Latin America and the Caribbean Haiti                          62.1  Highest
2 Latin America and the Caribbean Bolivia                        35.6  Highest
3 Latin America and the Caribbean Guyana                         30.8  Highest
4 Latin America and the Caribbean Cuba                            5.32 Lowest
5 Latin America and the Caribbean Chile                           7.40 Lowest
6 Latin America and the Caribbean Antigua and Bar~                8.76 Lowest

[[6]]
# A tibble: 6 x 4
  region    country_name    avg_infant_mortality category
  <chr>     <chr>                          <dbl> <chr>
1 Melanesia Papua New Guinea                45.3 Highest
2 Melanesia Vanuatu                         23.6 Highest
3 Melanesia Solomon Islands                 22.0 Highest
4 Melanesia Fiji                            20.2 Lowest
5 Melanesia Solomon Islands                 22.0 Lowest
6 Melanesia Vanuatu                         23.6 Lowest

[[7]]
# A tibble: 6 x 4
  region     country_name                  avg_infant_mortality category
  <chr>      <chr>                                        <dbl> <chr>
1 Micronesia Kiribati                                      47.6 Highest
2 Micronesia Marshall Islands                              31.2 Highest
3 Micronesia Federated States of Micronesia                26.7 Highest
4 Micronesia Federated States of Micronesia                26.7 Lowest
5 Micronesia Marshall Islands                              31.2 Lowest
6 Micronesia Kiribati                                      47.6 Lowest
```

```
[[8]]
# A tibble: 6 x 4
  region          country_name avg_infant_mortality category
  <chr>           <chr>                       <dbl> <chr>
1 Northern Africa Sudan                        52.4 Highest
2 Northern Africa Morocco                      28.7 Highest
3 Northern Africa Algeria                      25.5 Highest
4 Northern Africa Libya                        16.0 Lowest
5 Northern Africa Tunisia                      17.4 Lowest
6 Northern Africa Egypt                        25.4 Lowest

[[9]]
# A tibble: 4 x 4
  region           country_name  avg_infant_mortality category
  <chr>            <chr>                        <dbl> <chr>
1 Northern America United States                 6.30 Highest
2 Northern America Canada                        4.96 Highest
3 Northern America Canada                        4.96 Lowest
4 Northern America United States                 6.30 Lowest

[[10]]
# A tibble: 6 x 4
  region          country_name   avg_infant_mortality category
  <chr>           <chr>                         <dbl> <chr>
1 Northern Europe Latvia                         6.86 Highest
2 Northern Europe Lithuania                      5.56 Highest
3 Northern Europe United Kingdom                 4.54 Highest
4 Northern Europe Iceland                        2.26 Lowest
5 Northern Europe Finland                        2.61 Lowest
6 Northern Europe Sweden                         2.68 Lowest

[[11]]
# A tibble: 4 x 4
  region    country_name avg_infant_mortality category
  <chr>     <chr>                       <dbl> <chr>
1 Polynesia Samoa                        16.5 Highest
2 Polynesia Tonga                        11.8 Highest
3 Polynesia Tonga                        11.8 Lowest
4 Polynesia Samoa                        16.5 Lowest

[[12]]
# A tibble: 6 x 4
```

```
  region            country_name avg_infant_mortality category
  <chr>             <chr>                       <dbl> <chr>
1 South-eastern Asia Timor-Leste                56.0  Highest
2 South-eastern Asia Laos                       54.2  Highest
3 South-eastern Asia Myanmar                    50.6  Highest
4 South-eastern Asia Singapore                   2.33 Lowest
5 South-eastern Asia Malaysia                    7.16 Lowest
6 South-eastern Asia Brunei                      8.27 Lowest

[[13]]
# A tibble: 6 x 4
  region         country_name avg_infant_mortality category
  <chr>          <chr>                       <dbl> <chr>
1 Southern Asia  Pakistan                     70.3 Highest
2 Southern Asia  Afghanistan                  66.6 Highest
3 Southern Asia  India                        46.5 Highest
4 Southern Asia  Sri Lanka                    10.5 Lowest
5 Southern Asia  Maldives                     14.7 Lowest
6 Southern Asia  Iran                         18.5 Lowest

[[14]]
# A tibble: 6 x 4
  region          country_name avg_infant_mortality category
  <chr>           <chr>                       <dbl> <chr>
1 Southern Europe Albania                     13.9  Highest
2 Southern Europe Macedonia                   10.4  Highest
3 Southern Europe Serbia                       7.04 Highest
4 Southern Europe Slovenia                     2.9  Lowest
5 Southern Europe Spain                        3.34 Lowest
6 Southern Europe Italy                        3.48 Lowest

[[15]]
# A tibble: 6 x 4
  region             country_name             avg_infant_mortality category
  <chr>              <chr>                                   <dbl> <chr>
1 Sub-Saharan Africa Sierra Leone                            110.  Highest
2 Sub-Saharan Africa Central African Republic                 97.6 Highest
3 Sub-Saharan Africa Somalia                                  94.2 Highest
4 Sub-Saharan Africa Seychelles                               12.2 Lowest
5 Sub-Saharan Africa Mauritius                                13.5 Lowest
6 Sub-Saharan Africa Cape Verde                               21.2 Lowest

[[16]]
```

```
# A tibble: 6 x 4
  region       country_name        avg_infant_mortality category
  <chr>        <chr>                              <dbl> <chr>
1 Western Asia Yemen                              51.2  Highest
2 Western Asia Azerbaijan                         35.5  Highest
3 Western Asia Iraq                               29.0  Highest
4 Western Asia Cyprus                              3.28 Lowest
5 Western Asia United Arab Emirates                7.58 Lowest
6 Western Asia Bahrain                             7.88 Lowest

[[17]]
# A tibble: 7 x 4
  region         country_name avg_infant_mortality category
  <chr>          <chr>                       <dbl> <chr>
1 Western Europe Switzerland                  4.04 Highest
2 Western Europe Netherlands                  4.01 Highest
3 Western Europe Belgium                      3.79 Highest
4 Western Europe Luxembourg                   2.61 Lowest
5 Western Europe France                       3.34 Lowest
6 Western Europe Austria                      3.64 Lowest
7 Western Europe Germany                      3.64 Lowest
```

Top 3 highest and lowest values of Average NeoNatal Mortality Rate (2000-2019) by countries
per region

```
finaldata <- source("Armed Conflict/R/merge_datasets.R")$value
```

```
Warning: Some values were not matched unambiguously: Africa Eastern and Southern, Africa West
```

```
`summarise()` has grouped output by 'Year'. You can override using the
`.groups` argument.
`summarise()` has grouped output by 'year'. You can override using the
`.groups` argument.
```

```
finaldata <- finaldata %>%
  mutate(NeoNatal_Mortality_Rate = as.numeric(NeoNatal_Mortality_Rate)) %>%
  filter(!is.na(NeoNatal_Mortality_Rate))

# Group by region and country_name and find average Infant Mortality Rate
country_mortality_summary <- finaldata %>%
  group_by(region, country_name) %>%
```

```
  summarise(avg_infant_mortality = mean(NeoNatal_Mortality_Rate, na.rm = TRUE)) %>%
  ungroup()
```

`summarise()` has grouped output by 'region'. You can override using the
`.groups` argument.

```
# top 5 countries with highest and lowest IMR / region
top_3_highest <- country_mortality_summary %>%
  group_by(region) %>%
  slice_max(avg_infant_mortality, n = 3) %>%
  ungroup()

top_3_lowest <- country_mortality_summary %>%
  group_by(region) %>%
  slice_min(avg_infant_mortality, n = 3) %>%
  ungroup()

# Combine the top highest and lowest into one table
top_3_combined <- bind_rows(
  top_3_highest %>% mutate(category = "Highest"),
  top_3_lowest %>% mutate(category = "Lowest")
)

# Split the combined table into separate tables per region
tables_per_region <- split(top_3_combined, top_3_combined$region)

# Print each table separately
lapply(names(tables_per_region), function(region_name) {
  cat("\nRegion:", region_name, "\n")
  print(tables_per_region[[region_name]])
})
```

```
Region: Australia and New Zealand
# A tibble: 4 x 4
  region                    country_name avg_infant_mortality category
  <chr>                     <chr>                       <dbl> <chr>
1 Australia and New Zealand New Zealand                  3.18 Highest
2 Australia and New Zealand Australia                    2.82 Highest
3 Australia and New Zealand Australia                    2.82 Lowest
4 Australia and New Zealand New Zealand                  3.18 Lowest
```

```
Region: Central Asia
# A tibble: 6 x 4
  region        country_name avg_infant_mortality category
  <chr>         <chr>                       <dbl> <chr>
1 Central Asia Turkmenistan                 24.8 Highest
2 Central Asia Tajikistan                   20.5 Highest
3 Central Asia Kyrgyzstan                   17.1 Highest
4 Central Asia Kazakhstan                   13.3 Lowest
5 Central Asia Uzbekistan                   17   Lowest
6 Central Asia Kyrgyzstan                   17.1 Lowest

Region: Eastern Asia
# A tibble: 6 x 4
  region        country_name avg_infant_mortality category
  <chr>         <chr>                       <dbl> <chr>
1 Eastern Asia North Korea                  16.1  Highest
2 Eastern Asia Mongolia                     13.9  Highest
3 Eastern Asia China                        10.3  Highest
4 Eastern Asia Japan                         1.21 Lowest
5 Eastern Asia South Korea                   2.08 Lowest
6 Eastern Asia China                        10.3  Lowest

Region: Eastern Europe
# A tibble: 6 x 4
  region         country_name    avg_infant_mortality category
  <chr>          <chr>                          <dbl> <chr>
1 Eastern Europe Moldova                        13.4  Highest
2 Eastern Europe Ukraine                         7.38 Highest
3 Eastern Europe Romania                         6.38 Highest
4 Eastern Europe Czech Republic                  1.92 Lowest
5 Eastern Europe Belarus                         2.68 Lowest
6 Eastern Europe Slovakia                        3.58 Lowest

Region: Latin America and the Caribbean
# A tibble: 6 x 4
  region                          country_name    avg_infant_mortality category
  <chr>                           <chr>                          <dbl> <chr>
1 Latin America and the Caribbean Haiti                          28.3  Highest
2 Latin America and the Caribbean Dominican Repub~               23.9  Highest
3 Latin America and the Caribbean Guyana                         22.7  Highest
4 Latin America and the Caribbean Cuba                            3.05 Lowest
5 Latin America and the Caribbean Chile                           5.23 Lowest
```

```
6 Latin America and the Caribbean Uruguay                        5.93 Lowest


Region: Melanesia
# A tibble: 6 x 4
  region     country_name      avg_infant_mortality category
  <chr>      <chr>                            <dbl> <chr>
1 Melanesia Papua New Guinea                   26.1 Highest
2 Melanesia Vanuatu                            12.0 Highest
3 Melanesia Solomon Islands                    10.8 Highest
4 Melanesia Fiji                               10.3 Lowest
5 Melanesia Solomon Islands                    10.8 Lowest
6 Melanesia Vanuatu                            12.0 Lowest


Region: Micronesia
# A tibble: 6 x 4
  region     country_name                  avg_infant_mortality category
  <chr>      <chr>                                        <dbl> <chr>
1 Micronesia Kiribati                                      25.1 Highest
2 Micronesia Marshall Islands                              17.5 Highest
3 Micronesia Federated States of Micronesia                17.1 Highest
4 Micronesia Federated States of Micronesia                17.1 Lowest
5 Micronesia Marshall Islands                              17.5 Lowest
6 Micronesia Kiribati                                      25.1 Lowest


Region: Northern Africa
# A tibble: 6 x 4
  region          country_name avg_infant_mortality category
  <chr>           <chr>                       <dbl> <chr>
1 Northern Africa Sudan                       32.0  Highest
2 Northern Africa Morocco                     20.0  Highest
3 Northern Africa Algeria                     18.1  Highest
4 Northern Africa Libya                        9.99 Lowest
5 Northern Africa Tunisia                     13.5  Lowest
6 Northern Africa Egypt                       16.0  Lowest


Region: Northern America
# A tibble: 4 x 4
  region          country_name  avg_infant_mortality category
  <chr>           <chr>                        <dbl> <chr>
1 Northern America United States                4.18 Highest
2 Northern America Canada                       3.7  Highest
3 Northern America Canada                       3.7  Lowest
4 Northern America United States                4.18 Lowest
```

```
Region: Northern Europe
# A tibble: 6 x 4
  region          country_name    avg_infant_mortality category
  <chr>           <chr>                          <dbl> <chr>
1 Northern Europe Latvia                          4.32 Highest
2 Northern Europe Lithuania                       3.28 Highest
3 Northern Europe United Kingdom                  3.14 Highest
4 Northern Europe Iceland                         1.44 Lowest
5 Northern Europe Sweden                          1.77 Lowest
6 Northern Europe Finland                         1.78 Lowest

Region: Polynesia
# A tibble: 4 x 4
  region    country_name avg_infant_mortality category
  <chr>     <chr>                       <dbl> <chr>
1 Polynesia Samoa                        7.71 Highest
2 Polynesia Tonga                        5.82 Highest
3 Polynesia Tonga                        5.82 Lowest
4 Polynesia Samoa                        7.71 Lowest

Region: South-eastern Asia
# A tibble: 6 x 4
  region            country_name avg_infant_mortality category
  <chr>             <chr>                       <dbl> <chr>
1 South-eastern Asia Laos                       29.7  Highest
2 South-eastern Asia Myanmar                    29.4  Highest
3 South-eastern Asia Timor-Leste                26.5  Highest
4 South-eastern Asia Singapore                   1.16 Lowest
5 South-eastern Asia Malaysia                    4.22 Lowest
6 South-eastern Asia Brunei                      5.08 Lowest

Region: Southern Asia
# A tibble: 6 x 4
  region         country_name avg_infant_mortality category
  <chr>          <chr>                       <dbl> <chr>
1 Southern Asia Pakistan                     49.4  Highest
2 Southern Asia Afghanistan                  48.3  Highest
3 Southern Asia India                        32.6  Highest
4 Southern Asia Sri Lanka                     6.52 Lowest
5 Southern Asia Maldives                      9.90 Lowest
6 Southern Asia Iran                         13.4  Lowest
```

```
Region: Southern Europe
# A tibble: 6 x 4
  region          country_name            avg_infant_mortality category
  <chr>           <chr>                                  <dbl> <chr>
1 Southern Europe Albania                                 8.36 Highest
2 Southern Europe Macedonia                               7.72 Highest
3 Southern Europe Bosnia and Herzegovina                  5.22 Highest
4 Southern Europe Slovenia                                2.00 Lowest
5 Southern Europe Spain                                   2.20 Lowest
6 Southern Europe Portugal                                2.33 Lowest

Region: Sub-Saharan Africa
# A tibble: 6 x 4
  region             country_name             avg_infant_mortality category
  <chr>              <chr>                                   <dbl> <chr>
1 Sub-Saharan Africa South Sudan                             45.6  Highest
2 Sub-Saharan Africa Guinea-Bissau                           45.5  Highest
3 Sub-Saharan Africa Central African Republic                45.5  Highest
4 Sub-Saharan Africa Seychelles                               8.72 Lowest
5 Sub-Saharan Africa Mauritius                                9.91 Lowest
6 Sub-Saharan Africa South Africa                            12.9  Lowest

Region: Western Asia
# A tibble: 6 x 4
  region       country_name        avg_infant_mortality category
  <chr>        <chr>                              <dbl> <chr>
1 Western Asia Yemen                               30.3  Highest
2 Western Asia Azerbaijan                          21.2  Highest
3 Western Asia Iraq                                19.8  Highest
4 Western Asia Cyprus                               2.26 Lowest
5 Western Asia Bahrain                              3.46 Lowest
6 Western Asia United Arab Emirates                 4.72 Lowest

Region: Western Europe
# A tibble: 6 x 4
  region         country_name avg_infant_mortality category
  <chr>          <chr>                       <dbl> <chr>
1 Western Europe Switzerland                  3.16 Highest
2 Western Europe Netherlands                  3.04 Highest
3 Western Europe Austria                      2.58 Highest
4 Western Europe Luxembourg                   1.72 Lowest
5 Western Europe Germany                      2.45 Lowest
6 Western Europe France                       2.48 Lowest
```

```
[[1]]
# A tibble: 4 x 4
  region                 country_name avg_infant_mortality category
  <chr>                  <chr>                       <dbl> <chr>
1 Australia and New Zealand New Zealand                  3.18 Highest
2 Australia and New Zealand Australia                    2.82 Highest
3 Australia and New Zealand Australia                    2.82 Lowest
4 Australia and New Zealand New Zealand                  3.18 Lowest

[[2]]
# A tibble: 6 x 4
  region        country_name avg_infant_mortality category
  <chr>         <chr>                       <dbl> <chr>
1 Central Asia Turkmenistan                 24.8 Highest
2 Central Asia Tajikistan                   20.5 Highest
3 Central Asia Kyrgyzstan                   17.1 Highest
4 Central Asia Kazakhstan                   13.3 Lowest
5 Central Asia Uzbekistan                   17   Lowest
6 Central Asia Kyrgyzstan                   17.1 Lowest

[[3]]
# A tibble: 6 x 4
  region       country_name avg_infant_mortality category
  <chr>        <chr>                       <dbl> <chr>
1 Eastern Asia North Korea                 16.1  Highest
2 Eastern Asia Mongolia                    13.9  Highest
3 Eastern Asia China                       10.3  Highest
4 Eastern Asia Japan                        1.21 Lowest
5 Eastern Asia South Korea                  2.08 Lowest
6 Eastern Asia China                       10.3  Lowest

[[4]]
# A tibble: 6 x 4
  region         country_name   avg_infant_mortality category
  <chr>          <chr>                         <dbl> <chr>
1 Eastern Europe Moldova                       13.4  Highest
2 Eastern Europe Ukraine                        7.38 Highest
3 Eastern Europe Romania                        6.38 Highest
4 Eastern Europe Czech Republic                 1.92 Lowest
5 Eastern Europe Belarus                        2.68 Lowest
6 Eastern Europe Slovakia                       3.58 Lowest

[[5]]
```

```
# A tibble: 6 x 4
  region                         country_name     avg_infant_mortality category
  <chr>                          <chr>                           <dbl> <chr>
1 Latin America and the Caribbean Haiti                            28.3 Highest
2 Latin America and the Caribbean Dominican Repub~                 23.9 Highest
3 Latin America and the Caribbean Guyana                           22.7 Highest
4 Latin America and the Caribbean Cuba                             3.05 Lowest
5 Latin America and the Caribbean Chile                            5.23 Lowest
6 Latin America and the Caribbean Uruguay                          5.93 Lowest

[[6]]
# A tibble: 6 x 4
  region    country_name     avg_infant_mortality category
  <chr>     <chr>                           <dbl> <chr>
1 Melanesia Papua New Guinea                 26.1 Highest
2 Melanesia Vanuatu                          12.0 Highest
3 Melanesia Solomon Islands                  10.8 Highest
4 Melanesia Fiji                             10.3 Lowest
5 Melanesia Solomon Islands                  10.8 Lowest
6 Melanesia Vanuatu                          12.0 Lowest

[[7]]
# A tibble: 6 x 4
  region     country_name                  avg_infant_mortality category
  <chr>      <chr>                                        <dbl> <chr>
1 Micronesia Kiribati                                      25.1 Highest
2 Micronesia Marshall Islands                              17.5 Highest
3 Micronesia Federated States of Micronesia                17.1 Highest
4 Micronesia Federated States of Micronesia                17.1 Lowest
5 Micronesia Marshall Islands                              17.5 Lowest
6 Micronesia Kiribati                                      25.1 Lowest

[[8]]
# A tibble: 6 x 4
  region         country_name avg_infant_mortality category
  <chr>          <chr>                       <dbl> <chr>
1 Northern Africa Sudan                       32.0  Highest
2 Northern Africa Morocco                     20.0  Highest
3 Northern Africa Algeria                     18.1  Highest
4 Northern Africa Libya                       9.99 Lowest
5 Northern Africa Tunisia                     13.5  Lowest
6 Northern Africa Egypt                       16.0  Lowest
```

```
[[9]]
# A tibble: 4 x 4
  region           country_name  avg_infant_mortality category
  <chr>            <chr>                        <dbl> <chr>
1 Northern America United States                 4.18 Highest
2 Northern America Canada                        3.7  Highest
3 Northern America Canada                        3.7  Lowest
4 Northern America United States                 4.18 Lowest

[[10]]
# A tibble: 6 x 4
  region          country_name   avg_infant_mortality category
  <chr>           <chr>                         <dbl> <chr>
1 Northern Europe Latvia                         4.32 Highest
2 Northern Europe Lithuania                      3.28 Highest
3 Northern Europe United Kingdom                 3.14 Highest
4 Northern Europe Iceland                        1.44 Lowest
5 Northern Europe Sweden                         1.77 Lowest
6 Northern Europe Finland                        1.78 Lowest

[[11]]
# A tibble: 4 x 4
  region    country_name avg_infant_mortality category
  <chr>     <chr>                       <dbl> <chr>
1 Polynesia Samoa                        7.71 Highest
2 Polynesia Tonga                        5.82 Highest
3 Polynesia Tonga                        5.82 Lowest
4 Polynesia Samoa                        7.71 Lowest

[[12]]
# A tibble: 6 x 4
  region            country_name avg_infant_mortality category
  <chr>             <chr>                       <dbl> <chr>
1 South-eastern Asia Laos                        29.7  Highest
2 South-eastern Asia Myanmar                     29.4  Highest
3 South-eastern Asia Timor-Leste                 26.5  Highest
4 South-eastern Asia Singapore                    1.16 Lowest
5 South-eastern Asia Malaysia                     4.22 Lowest
6 South-eastern Asia Brunei                       5.08 Lowest

[[13]]
# A tibble: 6 x 4
  region        country_name avg_infant_mortality category
```

```
    <chr>         <chr>                     <dbl> <chr>
1 Southern Asia Pakistan                    49.4  Highest
2 Southern Asia Afghanistan                 48.3  Highest
3 Southern Asia India                       32.6  Highest
4 Southern Asia Sri Lanka                    6.52 Lowest
5 Southern Asia Maldives                     9.90 Lowest
6 Southern Asia Iran                        13.4  Lowest

[[14]]
# A tibble: 6 x 4
  region          country_name              avg_infant_mortality category
  <chr>           <chr>                                    <dbl> <chr>
1 Southern Europe Albania                                   8.36 Highest
2 Southern Europe Macedonia                                 7.72 Highest
3 Southern Europe Bosnia and Herzegovina                    5.22 Highest
4 Southern Europe Slovenia                                  2.00 Lowest
5 Southern Europe Spain                                     2.20 Lowest
6 Southern Europe Portugal                                  2.33 Lowest

[[15]]
# A tibble: 6 x 4
  region             country_name           avg_infant_mortality category
  <chr>              <chr>                                  <dbl> <chr>
1 Sub-Saharan Africa South Sudan                            45.6  Highest
2 Sub-Saharan Africa Guinea-Bissau                          45.5  Highest
3 Sub-Saharan Africa Central African Republic               45.5  Highest
4 Sub-Saharan Africa Seychelles                              8.72 Lowest
5 Sub-Saharan Africa Mauritius                               9.91 Lowest
6 Sub-Saharan Africa South Africa                           12.9  Lowest

[[16]]
# A tibble: 6 x 4
  region       country_name              avg_infant_mortality category
  <chr>        <chr>                                    <dbl> <chr>
1 Western Asia Yemen                                    30.3  Highest
2 Western Asia Azerbaijan                               21.2  Highest
3 Western Asia Iraq                                     19.8  Highest
4 Western Asia Cyprus                                    2.26 Lowest
5 Western Asia Bahrain                                   3.46 Lowest
6 Western Asia United Arab Emirates                      4.72 Lowest

[[17]]
# A tibble: 6 x 4
```

```
  region          country_name avg_infant_mortality category
  <chr>           <chr>                        <dbl> <chr>
1 Western Europe Switzerland                   3.16 Highest
2 Western Europe Netherlands                   3.04 Highest
3 Western Europe Austria                       2.58 Highest
4 Western Europe Luxembourg                    1.72 Lowest
5 Western Europe Germany                       2.45 Lowest
6 Western Europe France                        2.48 Lowest
```

Top 3 highest and lowest values of Average Under5 Mortality Rate (2000-2019) by countries per region

```
finaldata <- source("Armed Conflict/R/merge_datasets.R")$value
```

Warning: Some values were not matched unambiguously: Africa Eastern and Southern, Africa West

`summarise()` has grouped output by 'Year'. You can override using the
`.groups` argument.
`summarise()` has grouped output by 'year'. You can override using the
`.groups` argument.

```
finaldata <- finaldata %>%
  mutate(Under5_Mortality_Rate = as.numeric(Under5_Mortality_Rate)) %>%
  filter(!is.na(Under5_Mortality_Rate))

# Group by region and country_name and find average Infant Mortality Rate
country_mortality_summary <- finaldata %>%
  group_by(region, country_name) %>%
  summarise(avg_infant_mortality = mean(Under5_Mortality_Rate, na.rm = TRUE)) %>%
  ungroup()
```

`summarise()` has grouped output by 'region'. You can override using the
`.groups` argument.

```
# top 5 countries with highest and lowest IMR / region
top_3_highest <- country_mortality_summary %>%
  group_by(region) %>%
  slice_max(avg_infant_mortality, n = 3) %>%
  ungroup()
```

```r
top_3_lowest <- country_mortality_summary %>%
  group_by(region) %>%
  slice_min(avg_infant_mortality, n = 3) %>%
  ungroup()

# Combine the top highest and lowest into one table
top_3_combined <- bind_rows(
  top_3_highest %>% mutate(category = "Highest"),
  top_3_lowest %>% mutate(category = "Lowest")
)

# Split the combined table into separate tables per region
tables_per_region <- split(top_3_combined, top_3_combined$region)

# Print each table separately
lapply(names(tables_per_region), function(region_name) {
  cat("\nRegion:", region_name, "\n")
  print(tables_per_region[[region_name]])
})
```

```
Region: Australia and New Zealand
# A tibble: 4 x 4
  region                  country_name avg_infant_mortality category
  <chr>                   <chr>                       <dbl> <chr>
1 Australia and New Zealand New Zealand                6.14 Highest
2 Australia and New Zealand Australia                  4.88 Highest
3 Australia and New Zealand Australia                  4.88 Lowest
4 Australia and New Zealand New Zealand                6.14 Lowest

Region: Central Asia
# A tibble: 6 x 4
  region       country_name avg_infant_mortality category
  <chr>        <chr>                       <dbl> <chr>
1 Central Asia Tajikistan                  49.2 Highest
2 Central Asia Turkmenistan                48.7 Highest
3 Central Asia Uzbekistan                  33.1 Highest
4 Central Asia Kazakhstan                  22.9 Lowest
5 Central Asia Kyrgyzstan                  31.8 Lowest
6 Central Asia Uzbekistan                  33.1 Lowest

Region: Eastern Asia
```

```
# A tibble: 6 x 4
  region       country_name avg_infant_mortality category
  <chr>        <chr>                       <dbl> <chr>
1 Eastern Asia Mongolia                    32.3  Highest
2 Eastern Asia North Korea                 30.8  Highest
3 Eastern Asia China                       18.7  Highest
4 Eastern Asia Japan                        3.32 Lowest
5 Eastern Asia South Korea                  4.70 Lowest
6 Eastern Asia China                       18.7  Lowest

Region: Eastern Europe
# A tibble: 6 x 4
  region         country_name   avg_infant_mortality category
  <chr>          <chr>                         <dbl> <chr>
1 Eastern Europe Moldova                       19.1  Highest
2 Eastern Europe Romania                       13.7  Highest
3 Eastern Europe Ukraine                       12.4  Highest
4 Eastern Europe Czech Republic                 3.82 Lowest
5 Eastern Europe Poland                         6.38 Lowest
6 Eastern Europe Hungary                        6.52 Lowest

Region: Latin America and the Caribbean
# A tibble: 6 x 4
  region                          country_name avg_infant_mortality category
  <chr>                           <chr>                       <dbl> <chr>
1 Latin America and the Caribbean Haiti                       87.3  Highest
2 Latin America and the Caribbean Bolivia                     45.8  Highest
3 Latin America and the Caribbean Guyana                      37.8  Highest
4 Latin America and the Caribbean Cuba                         6.66 Lowest
5 Latin America and the Caribbean Chile                        8.68 Lowest
6 Latin America and the Caribbean Costa Rica                  10.5  Lowest

Region: Melanesia
# A tibble: 6 x 4
  region    country_name     avg_infant_mortality category
  <chr>     <chr>                           <dbl> <chr>
1 Melanesia Papua New Guinea                 58.5 Highest
2 Melanesia Vanuatu                          28.2 Highest
3 Melanesia Solomon Islands                  26.2 Highest
4 Melanesia Fiji                             23.8 Lowest
5 Melanesia Solomon Islands                  26.2 Lowest
6 Melanesia Vanuatu                          28.2 Lowest
```

```
Region: Micronesia
# A tibble: 6 x 4
  region     country_name                     avg_infant_mortality category
  <chr>      <chr>                                           <dbl> <chr>
1 Micronesia Kiribati                                         61.9 Highest
2 Micronesia Marshall Islands                                 38.3 Highest
3 Micronesia Federated States of Micronesia                  32.3 Highest
4 Micronesia Federated States of Micronesia                  32.3 Lowest
5 Micronesia Marshall Islands                                 38.3 Lowest
6 Micronesia Kiribati                                         61.9 Lowest

Region: Northern Africa
# A tibble: 6 x 4
  region          country_name avg_infant_mortality category
  <chr>           <chr>                       <dbl> <chr>
1 Northern Africa Sudan                        78.6 Highest
2 Northern Africa Morocco                      33.6 Highest
3 Northern Africa Egypt                        30.7 Highest
4 Northern Africa Libya                        18.7 Lowest
5 Northern Africa Tunisia                      20.4 Lowest
6 Northern Africa Algeria                      29.8 Lowest

Region: Northern America
# A tibble: 4 x 4
  region           country_name  avg_infant_mortality category
  <chr>            <chr>                        <dbl> <chr>
1 Northern America United States                 7.42 Highest
2 Northern America Canada                         5.74 Highest
3 Northern America Canada                         5.74 Lowest
4 Northern America United States                 7.42 Lowest

Region: Northern Europe
# A tibble: 6 x 4
  region          country_name avg_infant_mortality category
  <chr>           <chr>                       <dbl> <chr>
1 Northern Europe Latvia                       8.27 Highest
2 Northern Europe Lithuania                    6.88 Highest
3 Northern Europe Estonia                      5.48 Highest
4 Northern Europe Iceland                      2.84 Lowest
5 Northern Europe Finland                      3.19 Lowest
6 Northern Europe Sweden                       3.26 Lowest

Region: Polynesia
```

```
# A tibble: 4 x 4
  region     country_name avg_infant_mortality category
  <chr>      <chr>                       <dbl> <chr>
1 Polynesia Samoa                         19.5 Highest
2 Polynesia Tonga                         13.7 Highest
3 Polynesia Tonga                         13.7 Lowest
4 Polynesia Samoa                         19.5 Lowest

Region: South-eastern Asia
# A tibble: 6 x 4
  region            country_name avg_infant_mortality category
  <chr>             <chr>                       <dbl> <chr>
1 South-eastern Asia Laos                        72.5  Highest
2 South-eastern Asia Timor-Leste                 68.1  Highest
3 South-eastern Asia Myanmar                     67.4  Highest
4 South-eastern Asia Singapore                    2.91 Lowest
5 South-eastern Asia Malaysia                     8.38 Lowest
6 South-eastern Asia Brunei                      10.1  Lowest

Region: Southern Asia
# A tibble: 6 x 4
  region         country_name avg_infant_mortality category
  <chr>          <chr>                       <dbl> <chr>
1 Southern Asia Afghanistan                   91.6 Highest
2 Southern Asia Pakistan                      87.4 Highest
3 Southern Asia India                         60.8 Highest
4 Southern Asia Sri Lanka                     12.9 Lowest
5 Southern Asia Maldives                      17.5 Lowest
6 Southern Asia Iran                          21.9 Lowest

Region: Southern Europe
# A tibble: 6 x 4
  region          country_name avg_infant_mortality category
  <chr>           <chr>                       <dbl> <chr>
1 Southern Europe Albania                      15.6  Highest
2 Southern Europe Macedonia                    11.7  Highest
3 Southern Europe Serbia                        8.15 Highest
4 Southern Europe Slovenia                      3.52 Lowest
5 Southern Europe Italy                         4.10 Lowest
6 Southern Europe Spain                         4.1  Lowest

Region: Sub-Saharan Africa
# A tibble: 6 x 4
```

```
  region             country_name avg_infant_mortality category
  <chr>              <chr>                       <dbl> <chr>
1 Sub-Saharan Africa Sierra Leone                167.  Highest
2 Sub-Saharan Africa Somalia                     154.  Highest
3 Sub-Saharan Africa Chad                        149.  Highest
4 Sub-Saharan Africa Seychelles                   14.1 Lowest
5 Sub-Saharan Africa Mauritius                    15.5 Lowest
6 Sub-Saharan Africa Cape Verde                   25.2 Lowest

Region: Western Asia
# A tibble: 6 x 4
  region       country_name        avg_infant_mortality category
  <chr>        <chr>                              <dbl> <chr>
1 Western Asia Yemen                              67.8  Highest
2 Western Asia Azerbaijan                         41.5  Highest
3 Western Asia Iraq                               35.4  Highest
4 Western Asia Cyprus                              3.88 Lowest
5 Western Asia United Arab Emirates                8.85 Lowest
6 Western Asia Bahrain                             9.20 Lowest

Region: Western Europe
# A tibble: 6 x 4
  region         country_name avg_infant_mortality category
  <chr>          <chr>                       <dbl> <chr>
1 Western Europe Netherlands                  4.76 Highest
2 Western Europe Switzerland                  4.70 Highest
3 Western Europe Belgium                      4.64 Highest
4 Western Europe Luxembourg                   3.18 Lowest
5 Western Europe Germany                      4.38 Lowest
6 Western Europe Austria                      4.4  Lowest


[[1]]
# A tibble: 4 x 4
  region                    country_name avg_infant_mortality category
  <chr>                     <chr>                       <dbl> <chr>
1 Australia and New Zealand New Zealand                  6.14 Highest
2 Australia and New Zealand Australia                    4.88 Highest
3 Australia and New Zealand Australia                    4.88 Lowest
4 Australia and New Zealand New Zealand                  6.14 Lowest

[[2]]
# A tibble: 6 x 4
```

```
   region         country_name avg_infant_mortality category
   <chr>          <chr>                       <dbl> <chr>
1 Central Asia Tajikistan                     49.2 Highest
2 Central Asia Turkmenistan                   48.7 Highest
3 Central Asia Uzbekistan                     33.1 Highest
4 Central Asia Kazakhstan                     22.9 Lowest
5 Central Asia Kyrgyzstan                     31.8 Lowest
6 Central Asia Uzbekistan                     33.1 Lowest

[[3]]
# A tibble: 6 x 4
   region         country_name avg_infant_mortality category
   <chr>          <chr>                       <dbl> <chr>
1 Eastern Asia Mongolia                       32.3  Highest
2 Eastern Asia North Korea                    30.8  Highest
3 Eastern Asia China                          18.7  Highest
4 Eastern Asia Japan                           3.32 Lowest
5 Eastern Asia South Korea                     4.70 Lowest
6 Eastern Asia China                          18.7  Lowest

[[4]]
# A tibble: 6 x 4
   region          country_name  avg_infant_mortality category
   <chr>           <chr>                        <dbl> <chr>
1 Eastern Europe Moldova                        19.1  Highest
2 Eastern Europe Romania                        13.7  Highest
3 Eastern Europe Ukraine                        12.4  Highest
4 Eastern Europe Czech Republic                  3.82 Lowest
5 Eastern Europe Poland                          6.38 Lowest
6 Eastern Europe Hungary                         6.52 Lowest

[[5]]
# A tibble: 6 x 4
   region                           country_name avg_infant_mortality category
   <chr>                            <chr>                       <dbl> <chr>
1 Latin America and the Caribbean Haiti                         87.3  Highest
2 Latin America and the Caribbean Bolivia                       45.8  Highest
3 Latin America and the Caribbean Guyana                        37.8  Highest
4 Latin America and the Caribbean Cuba                           6.66 Lowest
5 Latin America and the Caribbean Chile                          8.68 Lowest
6 Latin America and the Caribbean Costa Rica                    10.5  Lowest

[[6]]
```

```
# A tibble: 6 x 4
  region    country_name     avg_infant_mortality category
  <chr>     <chr>                           <dbl> <chr>
1 Melanesia Papua New Guinea                  58.5 Highest
2 Melanesia Vanuatu                           28.2 Highest
3 Melanesia Solomon Islands                   26.2 Highest
4 Melanesia Fiji                              23.8 Lowest
5 Melanesia Solomon Islands                   26.2 Lowest
6 Melanesia Vanuatu                           28.2 Lowest

[[7]]
# A tibble: 6 x 4
  region     country_name                  avg_infant_mortality category
  <chr>      <chr>                                        <dbl> <chr>
1 Micronesia Kiribati                                      61.9 Highest
2 Micronesia Marshall Islands                              38.3 Highest
3 Micronesia Federated States of Micronesia                32.3 Highest
4 Micronesia Federated States of Micronesia                32.3 Lowest
5 Micronesia Marshall Islands                              38.3 Lowest
6 Micronesia Kiribati                                      61.9 Lowest

[[8]]
# A tibble: 6 x 4
  region          country_name avg_infant_mortality category
  <chr>           <chr>                       <dbl> <chr>
1 Northern Africa Sudan                        78.6 Highest
2 Northern Africa Morocco                      33.6 Highest
3 Northern Africa Egypt                        30.7 Highest
4 Northern Africa Libya                        18.7 Lowest
5 Northern Africa Tunisia                      20.4 Lowest
6 Northern Africa Algeria                      29.8 Lowest

[[9]]
# A tibble: 4 x 4
  region           country_name  avg_infant_mortality category
  <chr>            <chr>                        <dbl> <chr>
1 Northern America United States                 7.42 Highest
2 Northern America Canada                         5.74 Highest
3 Northern America Canada                         5.74 Lowest
4 Northern America United States                 7.42 Lowest

[[10]]
# A tibble: 6 x 4
```

```
   region          country_name avg_infant_mortality category
   <chr>           <chr>                        <dbl> <chr>
 1 Northern Europe Latvia                        8.27 Highest
 2 Northern Europe Lithuania                     6.88 Highest
 3 Northern Europe Estonia                       5.48 Highest
 4 Northern Europe Iceland                       2.84 Lowest
 5 Northern Europe Finland                       3.19 Lowest
 6 Northern Europe Sweden                        3.26 Lowest

[[11]]
# A tibble: 4 x 4
   region    country_name avg_infant_mortality category
   <chr>     <chr>                        <dbl> <chr>
 1 Polynesia Samoa                         19.5 Highest
 2 Polynesia Tonga                         13.7 Highest
 3 Polynesia Tonga                         13.7 Lowest
 4 Polynesia Samoa                         19.5 Lowest

[[12]]
# A tibble: 6 x 4
   region             country_name avg_infant_mortality category
   <chr>              <chr>                        <dbl> <chr>
 1 South-eastern Asia Laos                         72.5  Highest
 2 South-eastern Asia Timor-Leste                  68.1  Highest
 3 South-eastern Asia Myanmar                      67.4  Highest
 4 South-eastern Asia Singapore                     2.91 Lowest
 5 South-eastern Asia Malaysia                      8.38 Lowest
 6 South-eastern Asia Brunei                       10.1  Lowest

[[13]]
# A tibble: 6 x 4
   region         country_name avg_infant_mortality category
   <chr>          <chr>                        <dbl> <chr>
 1 Southern Asia  Afghanistan                   91.6 Highest
 2 Southern Asia  Pakistan                      87.4 Highest
 3 Southern Asia  India                         60.8 Highest
 4 Southern Asia  Sri Lanka                     12.9 Lowest
 5 Southern Asia  Maldives                      17.5 Lowest
 6 Southern Asia  Iran                          21.9 Lowest

[[14]]
# A tibble: 6 x 4
   region          country_name avg_infant_mortality category
```

```
   <chr>          <chr>                         <dbl> <chr>
1 Southern Europe Albania                       15.6  Highest
2 Southern Europe Macedonia                     11.7  Highest
3 Southern Europe Serbia                         8.15 Highest
4 Southern Europe Slovenia                       3.52 Lowest
5 Southern Europe Italy                          4.10 Lowest
6 Southern Europe Spain                          4.1  Lowest

[[15]]
# A tibble: 6 x 4
   region             country_name avg_infant_mortality category
   <chr>              <chr>                        <dbl> <chr>
1 Sub-Saharan Africa Sierra Leone                 167.  Highest
2 Sub-Saharan Africa Somalia                      154.  Highest
3 Sub-Saharan Africa Chad                         149.  Highest
4 Sub-Saharan Africa Seychelles                    14.1 Lowest
5 Sub-Saharan Africa Mauritius                     15.5 Lowest
6 Sub-Saharan Africa Cape Verde                    25.2 Lowest

[[16]]
# A tibble: 6 x 4
   region       country_name        avg_infant_mortality category
   <chr>        <chr>                               <dbl> <chr>
1 Western Asia Yemen                                67.8  Highest
2 Western Asia Azerbaijan                           41.5  Highest
3 Western Asia Iraq                                 35.4  Highest
4 Western Asia Cyprus                                3.88 Lowest
5 Western Asia United Arab Emirates                  8.85 Lowest
6 Western Asia Bahrain                               9.20 Lowest

[[17]]
# A tibble: 6 x 4
   region         country_name avg_infant_mortality category
   <chr>          <chr>                        <dbl> <chr>
1 Western Europe Netherlands                   4.76 Highest
2 Western Europe Switzerland                   4.70 Highest
3 Western Europe Belgium                       4.64 Highest
4 Western Europe Luxembourg                    3.18 Lowest
5 Western Europe Germany                       4.38 Lowest
6 Western Europe Austria                       4.4  Lowest
```

Top 3 highest and lowest values of Average Maternal Mortality Rate (2000-2019) by countries per region

```r
finaldata <- source("Armed Conflict/R/merge_datasets.R")$value
```

Warning: Some values were not matched unambiguously: Africa Eastern and Southern, Africa West

`summarise()` has grouped output by 'Year'. You can override using the
`.groups` argument.
`summarise()` has grouped output by 'year'. You can override using the
`.groups` argument.

```r
finaldata <- finaldata %>%
  mutate(Maternal_Mortality_Rate = as.numeric(Maternal_Mortality_Rate)) %>%
  filter(!is.na(Maternal_Mortality_Rate))

# Group by region and country_name and find average Infant Mortality Rate
country_mortality_summary <- finaldata %>%
  group_by(region, country_name) %>%
  summarise(avg_infant_mortality = mean(Maternal_Mortality_Rate, na.rm = TRUE)) %>%
  ungroup()
```

`summarise()` has grouped output by 'region'. You can override using the
`.groups` argument.

```r
# top 5 countries with highest and lowest IMR / region
top_3_highest <- country_mortality_summary %>%
  group_by(region) %>%
  slice_max(avg_infant_mortality, n = 3) %>%
  ungroup()

top_3_lowest <- country_mortality_summary %>%
  group_by(region) %>%
  slice_min(avg_infant_mortality, n = 3) %>%
  ungroup()

# Combine the top highest and lowest into one table
top_3_combined <- bind_rows(
  top_3_highest %>% mutate(category = "Highest"),
  top_3_lowest %>% mutate(category = "Lowest")
)

# Split the combined table into separate tables per region
```

```r
tables_per_region <- split(top_3_combined, top_3_combined$region)

# Print each table separately
lapply(names(tables_per_region), function(region_name) {
  cat("\nRegion:", region_name, "\n")
  print(tables_per_region[[region_name]])
})
```

```
Region: Australia and New Zealand
# A tibble: 4 x 4
  region                    country_name avg_infant_mortality category
  <chr>                     <chr>                       <dbl> <chr>
1 Australia and New Zealand New Zealand                 10.6  Highest
2 Australia and New Zealand Australia                    5.67 Highest
3 Australia and New Zealand Australia                    5.67 Lowest
4 Australia and New Zealand New Zealand                 10.6  Lowest

Region: Central Asia
# A tibble: 6 x 4
  region        country_name avg_infant_mortality category
  <chr>         <chr>                       <dbl> <chr>
1 Central Asia  Kyrgyzstan                   76.2 Highest
2 Central Asia  Uzbekistan                   34.4 Highest
3 Central Asia  Kazakhstan                   30.8 Highest
4 Central Asia  Turkmenistan                 14.8 Lowest
5 Central Asia  Tajikistan                   28.5 Lowest
6 Central Asia  Kazakhstan                   30.8 Lowest

Region: Eastern Asia
# A tibble: 6 x 4
  region        country_name avg_infant_mortality category
  <chr>         <chr>                       <dbl> <chr>
1 Eastern Asia  North Korea                110.   Highest
2 Eastern Asia  Mongolia                    82.3  Highest
3 Eastern Asia  China                       39.8  Highest
4 Eastern Asia  Japan                        6.28 Lowest
5 Eastern Asia  South Korea                 14.1  Lowest
6 Eastern Asia  China                       39.8  Lowest

Region: Eastern Europe
# A tibble: 6 x 4
```

```
    region          country_name        avg_infant_mortality category
    <chr>           <chr>                              <dbl> <chr>
1 Eastern Europe Russian Federation                    32.4  Highest
2 Eastern Europe Romania                               31.2  Highest
3 Eastern Europe Moldova                               28.8  Highest
4 Eastern Europe Poland                                 3.72 Lowest
5 Eastern Europe Czech Republic                         4.78 Lowest
6 Eastern Europe Slovakia                               6.39 Lowest

Region: Latin America and the Caribbean
# A tibble: 6 x 4
  region                          country_name avg_infant_mortality category
  <chr>                           <chr>                        <dbl> <chr>
1 Latin America and the Caribbean Haiti                         477.  Highest
2 Latin America and the Caribbean Bolivia                       234.  Highest
3 Latin America and the Caribbean Guyana                        197.  Highest
4 Latin America and the Caribbean Uruguay                        20.1 Lowest
5 Latin America and the Caribbean Chile                          21.4 Lowest
6 Latin America and the Caribbean Puerto Rico                    22.4 Lowest

Region: Melanesia
# A tibble: 6 x 4
  region    country_name       avg_infant_mortality category
  <chr>     <chr>                             <dbl> <chr>
1 Melanesia Papua New Guinea                   185.  Highest
2 Melanesia Solomon Islands                    162.  Highest
3 Melanesia Vanuatu                            101.  Highest
4 Melanesia Fiji                                41.6 Lowest
5 Melanesia Vanuatu                            101.  Lowest
6 Melanesia Solomon Islands                    162.  Lowest

Region: Micronesia
# A tibble: 4 x 4
  region     country_name                 avg_infant_mortality category
  <chr>      <chr>                                       <dbl> <chr>
1 Micronesia Federated States of Micronesia               119. Highest
2 Micronesia Kiribati                                      113  Highest
3 Micronesia Kiribati                                      113  Lowest
4 Micronesia Federated States of Micronesia               119. Lowest

Region: Northern Africa
# A tibble: 6 x 4
  region          country_name avg_infant_mortality category
```

```
   <chr>            <chr>                         <dbl> <chr>
1 Northern Africa Sudan                         460.  Highest
2 Northern Africa Algeria                       126.  Highest
3 Northern Africa Morocco                       112.  Highest
4 Northern Africa Egypt                          47.7 Lowest
5 Northern Africa Tunisia                        50.2 Lowest
6 Northern Africa Libya                          61.1 Lowest

Region: Northern America
# A tibble: 4 x 4
  region           country_name  avg_infant_mortality category
  <chr>            <chr>                         <dbl> <chr>
1 Northern America United States                  14.9 Highest
2 Northern America Canada                         10.7 Highest
3 Northern America Canada                         10.7 Lowest
4 Northern America United States                  14.9 Lowest

Region: Northern Europe
# A tibble: 6 x 4
  region          country_name avg_infant_mortality category
  <chr>           <chr>                        <dbl> <chr>
1 Northern Europe Latvia                       28.5  Highest
2 Northern Europe Estonia                      15.8  Highest
3 Northern Europe Lithuania                    11.9  Highest
4 Northern Europe Norway                        4    Lowest
5 Northern Europe Finland                       4.17 Lowest
6 Northern Europe Sweden                        4.78 Lowest

Region: Polynesia
# A tibble: 4 x 4
  region    country_name avg_infant_mortality category
  <chr>     <chr>                        <dbl> <chr>
1 Polynesia Samoa                        62.2 Highest
2 Polynesia Tonga                        61.6 Highest
3 Polynesia Tonga                        61.6 Lowest
4 Polynesia Samoa                        62.2 Lowest

Region: South-eastern Asia
# A tibble: 6 x 4
  region             country_name avg_infant_mortality category
  <chr>              <chr>                        <dbl> <chr>
1 South-eastern Asia Timor-Leste                  345.  Highest
2 South-eastern Asia Laos                         340.  Highest
```

```
3 South-eastern Asia Cambodia                          293.  Highest
4 South-eastern Asia Singapore                          11   Lowest
5 South-eastern Asia Brunei                           28.7 Lowest
6 South-eastern Asia Malaysia                         31.1 Lowest


Region: Southern Asia
# A tibble: 6 x 4
  region          country_name avg_infant_mortality category
  <chr>           <chr>                        <dbl> <chr>
1 Southern Asia Afghanistan                   1014.  Highest
2 Southern Asia Nepal                          350.  Highest
3 Southern Asia Bangladesh                     293.  Highest
4 Southern Asia Iran                            27.7 Lowest
5 Southern Asia Sri Lanka                       42.7 Lowest
6 Southern Asia Maldives                        75.1 Lowest


Region: Southern Europe
# A tibble: 6 x 4
  region           country_name           avg_infant_mortality category
  <chr>            <chr>                                  <dbl> <chr>
1 Southern Europe Albania                                 19.1 Highest
2 Southern Europe Serbia                                  12.3 Highest
3 Southern Europe Bosnia and Herzegovina                  12.1 Highest
4 Southern Europe Italy                                    2.39 Lowest
5 Southern Europe Greece                                   3    Lowest
6 Southern Europe Spain                                    4.33 Lowest


Region: Sub-Saharan Africa
# A tibble: 6 x 4
  region             country_name avg_infant_mortality category
  <chr>              <chr>                        <dbl> <chr>
1 Sub-Saharan Africa Sierra Leone                1571.  Highest
2 Sub-Saharan Africa South Sudan                 1318.  Highest
3 Sub-Saharan Africa Chad                        1273.  Highest
4 Sub-Saharan Africa Seychelles                    54.5 Lowest
5 Sub-Saharan Africa Mauritius                     59.3 Lowest
6 Sub-Saharan Africa Cape Verde                    78.5 Lowest


Region: Western Asia
# A tibble: 6 x 4
  region       country_name           avg_infant_mortality category
  <chr>        <chr>                                  <dbl> <chr>
1 Western Asia Yemen                                   217.  Highest
```

```
2 Western Asia Iraq                                   93.6  Highest
3 Western Asia Jordan                                 56.2  Highest
4 Western Asia United Arab Emirates                    4.17 Lowest
5 Western Asia Cyprus                                  8.5  Lowest
6 Western Asia Kuwait                                 10.4  Lowest


Region: Western Europe
# A tibble: 6 x 4
  region         country_name avg_infant_mortality category
  <chr>          <chr>                       <dbl> <chr>
1 Western Europe France                       8.94 Highest
2 Western Europe Netherlands                  8.72 Highest
3 Western Europe Luxembourg                   7.44 Highest
4 Western Europe Austria                      5.28 Lowest
5 Western Europe Germany                      5.94 Lowest
6 Western Europe Switzerland                  6.17 Lowest


[[1]]
# A tibble: 4 x 4
  region                   country_name avg_infant_mortality category
  <chr>                    <chr>                       <dbl> <chr>
1 Australia and New Zealand New Zealand                10.6  Highest
2 Australia and New Zealand Australia                   5.67 Highest
3 Australia and New Zealand Australia                   5.67 Lowest
4 Australia and New Zealand New Zealand                10.6  Lowest


[[2]]
# A tibble: 6 x 4
  region       country_name avg_infant_mortality category
  <chr>        <chr>                       <dbl> <chr>
1 Central Asia Kyrgyzstan                   76.2 Highest
2 Central Asia Uzbekistan                   34.4 Highest
3 Central Asia Kazakhstan                   30.8 Highest
4 Central Asia Turkmenistan                 14.8 Lowest
5 Central Asia Tajikistan                   28.5 Lowest
6 Central Asia Kazakhstan                   30.8 Lowest


[[3]]
# A tibble: 6 x 4
  region       country_name avg_infant_mortality category
  <chr>        <chr>                       <dbl> <chr>
1 Eastern Asia North Korea                 110.  Highest
```

```
2 Eastern Asia Mongolia                          82.3  Highest
3 Eastern Asia China                             39.8  Highest
4 Eastern Asia Japan                              6.28 Lowest
5 Eastern Asia South Korea                       14.1  Lowest
6 Eastern Asia China                             39.8  Lowest

[[4]]
# A tibble: 6 x 4
  region         country_name       avg_infant_mortality category
  <chr>          <chr>                             <dbl> <chr>
1 Eastern Europe Russian Federation                 32.4 Highest
2 Eastern Europe Romania                            31.2 Highest
3 Eastern Europe Moldova                            28.8 Highest
4 Eastern Europe Poland                              3.72 Lowest
5 Eastern Europe Czech Republic                      4.78 Lowest
6 Eastern Europe Slovakia                            6.39 Lowest

[[5]]
# A tibble: 6 x 4
  region                         country_name avg_infant_mortality category
  <chr>                          <chr>                       <dbl> <chr>
1 Latin America and the Caribbean Haiti                       477. Highest
2 Latin America and the Caribbean Bolivia                     234. Highest
3 Latin America and the Caribbean Guyana                      197. Highest
4 Latin America and the Caribbean Uruguay                      20.1 Lowest
5 Latin America and the Caribbean Chile                        21.4 Lowest
6 Latin America and the Caribbean Puerto Rico                  22.4 Lowest

[[6]]
# A tibble: 6 x 4
  region    country_name     avg_infant_mortality category
  <chr>     <chr>                           <dbl> <chr>
1 Melanesia Papua New Guinea                 185. Highest
2 Melanesia Solomon Islands                  162. Highest
3 Melanesia Vanuatu                          101. Highest
4 Melanesia Fiji                              41.6 Lowest
5 Melanesia Vanuatu                          101. Lowest
6 Melanesia Solomon Islands                  162. Lowest

[[7]]
# A tibble: 4 x 4
  region     country_name                 avg_infant_mortality category
  <chr>      <chr>                                       <dbl> <chr>
```

```
1 Micronesia Federated States of Micronesia                119. Highest
2 Micronesia Kiribati                                       113  Highest
3 Micronesia Kiribati                                       113  Lowest
4 Micronesia Federated States of Micronesia                119. Lowest

[[8]]
# A tibble: 6 x 4
  region          country_name avg_infant_mortality category
  <chr>           <chr>                       <dbl> <chr>
1 Northern Africa Sudan                       460.  Highest
2 Northern Africa Algeria                     126.  Highest
3 Northern Africa Morocco                     112.  Highest
4 Northern Africa Egypt                        47.7 Lowest
5 Northern Africa Tunisia                      50.2 Lowest
6 Northern Africa Libya                        61.1 Lowest

[[9]]
# A tibble: 4 x 4
  region           country_name  avg_infant_mortality category
  <chr>            <chr>                        <dbl> <chr>
1 Northern America United States                 14.9 Highest
2 Northern America Canada                        10.7 Highest
3 Northern America Canada                        10.7 Lowest
4 Northern America United States                 14.9 Lowest

[[10]]
# A tibble: 6 x 4
  region          country_name avg_infant_mortality category
  <chr>           <chr>                       <dbl> <chr>
1 Northern Europe Latvia                      28.5  Highest
2 Northern Europe Estonia                     15.8  Highest
3 Northern Europe Lithuania                   11.9  Highest
4 Northern Europe Norway                       4    Lowest
5 Northern Europe Finland                      4.17 Lowest
6 Northern Europe Sweden                       4.78 Lowest

[[11]]
# A tibble: 4 x 4
  region    country_name avg_infant_mortality category
  <chr>     <chr>                       <dbl> <chr>
1 Polynesia Samoa                        62.2 Highest
2 Polynesia Tonga                        61.6 Highest
3 Polynesia Tonga                        61.6 Lowest
```

```
4 Polynesia Samoa                         62.2 Lowest

[[12]]
# A tibble: 6 x 4
  region             country_name avg_infant_mortality category
  <chr>              <chr>                       <dbl> <chr>
1 South-eastern Asia Timor-Leste                  345. Highest
2 South-eastern Asia Laos                         340. Highest
3 South-eastern Asia Cambodia                     293. Highest
4 South-eastern Asia Singapore                     11  Lowest
5 South-eastern Asia Brunei                       28.7 Lowest
6 South-eastern Asia Malaysia                     31.1 Lowest

[[13]]
# A tibble: 6 x 4
  region         country_name avg_infant_mortality category
  <chr>          <chr>                       <dbl> <chr>
1 Southern Asia  Afghanistan                 1014. Highest
2 Southern Asia  Nepal                        350. Highest
3 Southern Asia  Bangladesh                   293. Highest
4 Southern Asia  Iran                         27.7 Lowest
5 Southern Asia  Sri Lanka                    42.7 Lowest
6 Southern Asia  Maldives                     75.1 Lowest

[[14]]
# A tibble: 6 x 4
  region          country_name           avg_infant_mortality category
  <chr>           <chr>                                 <dbl> <chr>
1 Southern Europe Albania                                19.1 Highest
2 Southern Europe Serbia                                 12.3 Highest
3 Southern Europe Bosnia and Herzegovina                 12.1 Highest
4 Southern Europe Italy                                   2.39 Lowest
5 Southern Europe Greece                                  3    Lowest
6 Southern Europe Spain                                   4.33 Lowest

[[15]]
# A tibble: 6 x 4
  region             country_name avg_infant_mortality category
  <chr>              <chr>                       <dbl> <chr>
1 Sub-Saharan Africa Sierra Leone                1571. Highest
2 Sub-Saharan Africa South Sudan                 1318. Highest
3 Sub-Saharan Africa Chad                        1273. Highest
4 Sub-Saharan Africa Seychelles                   54.5 Lowest
```

```
5 Sub-Saharan Africa Mauritius                         59.3 Lowest
6 Sub-Saharan Africa Cape Verde                        78.5 Lowest


[[16]]
# A tibble: 6 x 4
  region        country_name      avg_infant_mortality category
  <chr>         <chr>                            <dbl> <chr>
1 Western Asia Yemen                             217.  Highest
2 Western Asia Iraq                              93.6  Highest
3 Western Asia Jordan                            56.2  Highest
4 Western Asia United Arab Emirates               4.17 Lowest
5 Western Asia Cyprus                             8.5  Lowest
6 Western Asia Kuwait                            10.4  Lowest


[[17]]
# A tibble: 6 x 4
  region        country_name avg_infant_mortality category
  <chr>         <chr>                        <dbl> <chr>
1 Western Europe France                      8.94 Highest
2 Western Europe Netherlands                 8.72 Highest
3 Western Europe Luxembourg                  7.44 Highest
4 Western Europe Austria                     5.28 Lowest
5 Western Europe Germany                     5.94 Lowest
6 Western Europe Switzerland                 6.17 Lowest
```

Graphs for 2000 and 2019

Average Infant Mortality Rate per Region in 2000 and 2019

```r
library(ggplot2)
library(dplyr)

# Ensure Infant_Mortality_Rate is numeric
finaldata <- finaldata %>%
  mutate(Infant_Mortality_Rate = as.numeric(Infant_Mortality_Rate))

# Filter data for year 2000 and 2019
data_2000 <- finaldata %>%
  filter(year == 2000) %>%
  group_by(region) %>%
  summarise(avg_infant_mortality = mean(Infant_Mortality_Rate, na.rm = TRUE))
```

```
# Plot for year 2000
ggplot(data_2000, aes(x = reorder(region, -avg_infant_mortality), y = avg_infant_mortality))
  geom_bar(stat = "identity", fill = "skyblue") +
  theme_minimal() +
  labs(title = "Average Infant Mortality Rate per Region in 2000",
       x = "Region",
       y = "Average Infant Mortality Rate") +
  coord_flip()
```
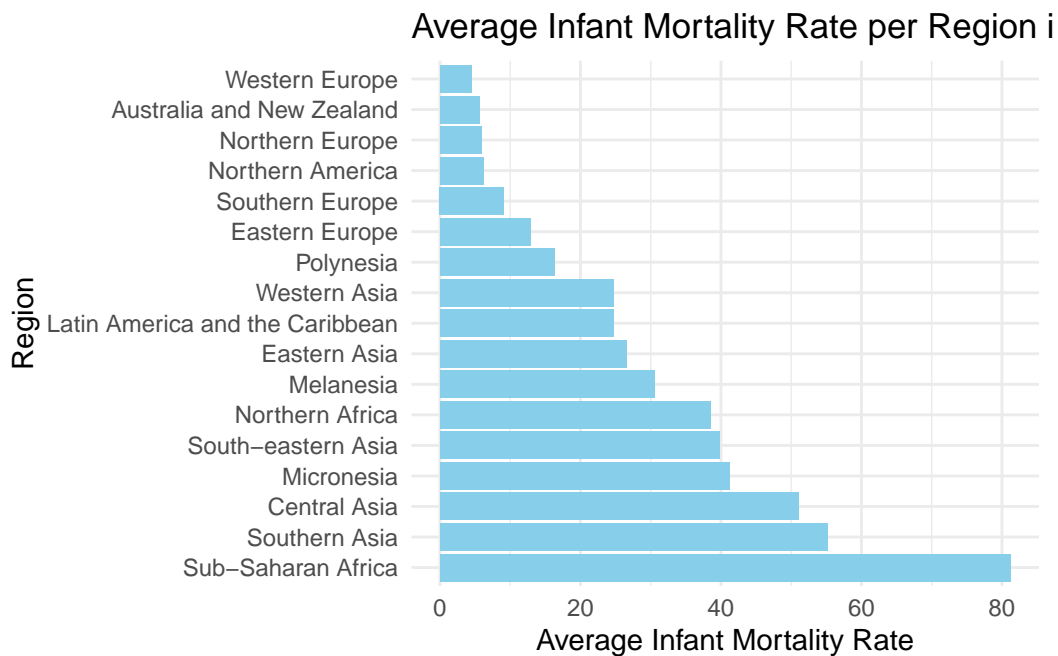


```
library(ggplot2)
library(dplyr)

finaldata <- finaldata %>%
  mutate(Infant_Mortality_Rate = as.numeric(Infant_Mortality_Rate))

data_2019 <- finaldata %>%
  filter(year == 2019) %>%
  group_by(region) %>%
  summarise(avg_infant_mortality = mean(Infant_Mortality_Rate, na.rm = TRUE))
# Plot for year 2019
ggplot(data_2019, aes(x = reorder(region, -avg_infant_mortality), y = avg_infant_mortality))
```

```
geom_bar(stat = "identity", fill = "coral") +
theme_minimal() +
labs(title = "Average Infant Mortality Rate per Region in 2019",
     x = "Region",
     y = "Average Infant Mortality Rate") +
coord_flip()
```

Average Infant Mortality Rate per Region in 2019

Region

Average Infant Mortality Rate

Instances of Conflict Per Region in 2000 and 2019

```
library(ggplot2)
library(dplyr)

finaldata <- finaldata %>%
  mutate(conflict = as.numeric(conflict))


data_2000 <- finaldata %>%
  filter(year == 2000) %>%
  group_by(region) %>%
  summarise(Total_Conflict_Instances = sum(conflict, na.rm = TRUE))
```

```
ggplot(data_2000, aes(x = reorder(region, -Total_Conflict_Instances), y = Total_Conflict_Inst
  geom_bar(stat = "identity", fill = "skyblue") +
  theme_minimal() +
  labs(title = "Total Instances of Conflict per Region in 2000",
       x = "Region",
       y = "Total Instances of Conflict") +
  coord_flip()
```
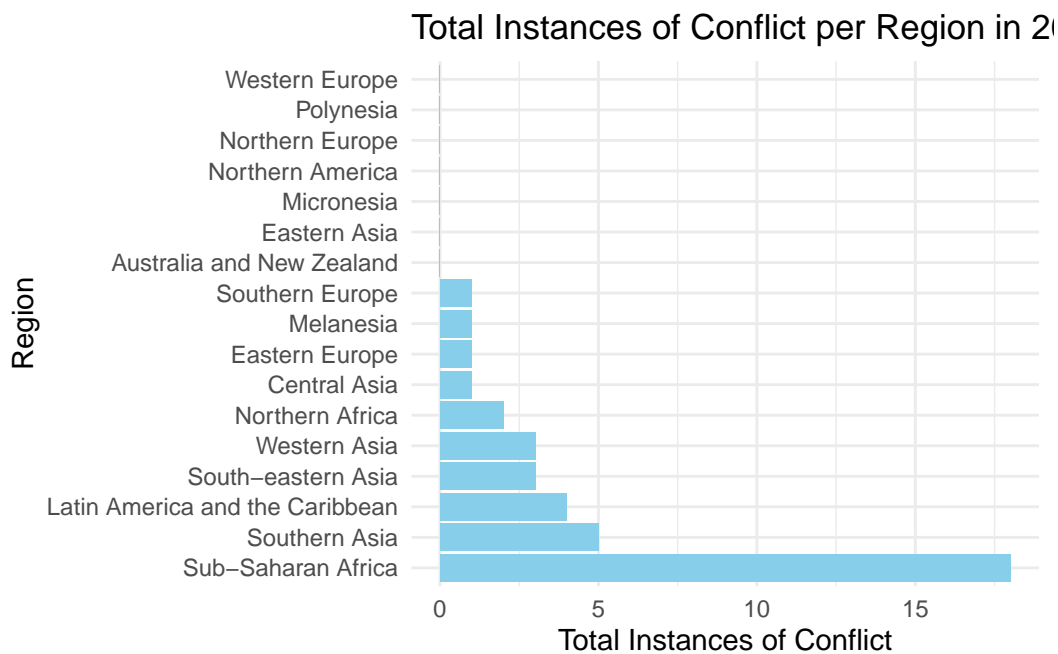
Total Instances of Conflict per Region in 2(


```
library(ggplot2)
library(dplyr)

finaldata <- finaldata %>%
  mutate(conflict = as.numeric(conflict))

data_2019 <- finaldata %>%
  filter(year == 2019) %>%
  group_by(region) %>%
  summarise(Total_Conflict_Instances = sum(conflict, na.rm = TRUE))


ggplot(data_2019, aes(x = reorder(region, -Total_Conflict_Instances), y = Total_Conflict_Inst
  geom_bar(stat = "identity", fill = "coral") +
```

```
  theme_minimal() +
  labs(title = "Total Instances of Conflict per Region in 2019",
       x = "Region",
       y = "Total Instances of Conflict") +
  coord_flip()
```

Total Instances of Conflict per Region in 2019

Region

Total Instances of Conflict

Disasters Per Region in 2000 and 2019

```
finaldata <- finaldata %>%
  mutate(disaster = as.numeric(sum(drought, earthquake)))

data_2000 <- finaldata %>%
  filter(year == 2000) %>%
  group_by(region) %>%
  summarise(Total_Disaster_Instances = sum(disaster, na.rm = TRUE))

ggplot(data_2000, aes(x = reorder(region, -Total_Disaster_Instances), y = Total_Disaster_Inst
  geom_bar(stat = "identity", fill = "skyblue") +
  theme_minimal() +
  labs(title = "Total Instances of Disasters per Region in 2019",
       x = "Region",
```

```
      y = "Total Instances of Disasters") +
  coord_flip()
```

Total Instances of Disasters per Region in
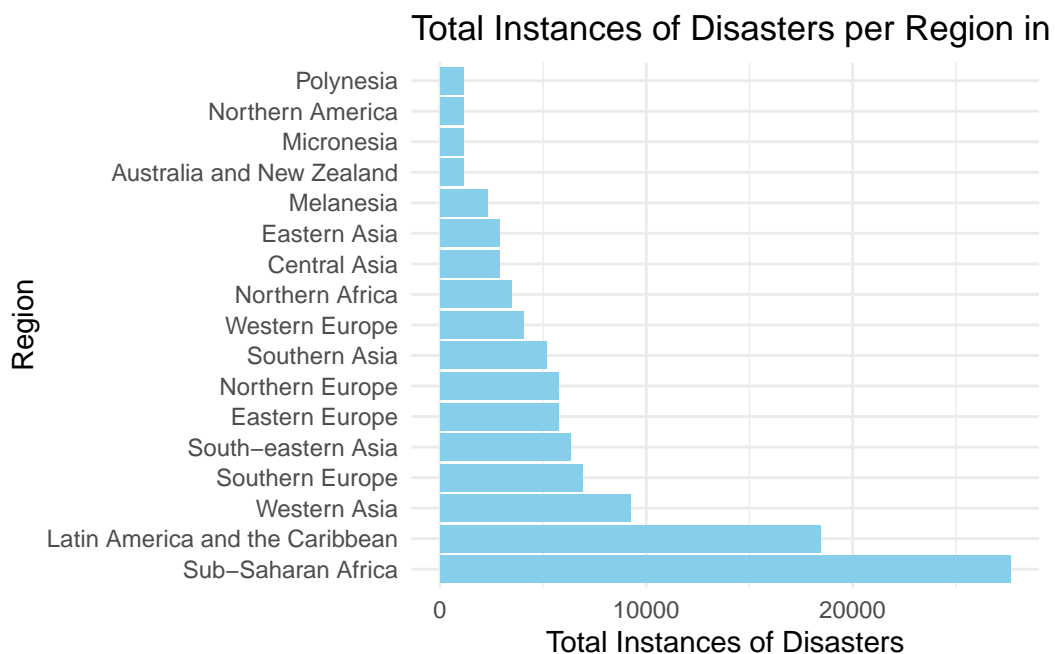

```
finaldata <- finaldata %>%
  mutate(disaster = as.numeric(sum(drought, earthquake)))

data_2019 <- finaldata %>%
  filter(year == 2019) %>%
  group_by(region) %>%
  summarise(Total_Disaster_Instances = sum(disaster, na.rm = TRUE))

ggplot(data_2019, aes(x = reorder(region, -Total_Disaster_Instances), y = Total_Disaster_Inst
  geom_bar(stat = "identity", fill = "coral") +
  theme_minimal() +
  labs(title = "Total Instances of Disasters per Region in 2019",
       x = "Region",
       y = "Total Instances of Disasters") +
  coord_flip()
```

Total Instances of Disasters per Region in 2019

Region

Total Instances of Disasters

2000 - 2019 Mortality Rate by Region

```
library(ggplot2)
library(dplyr)

# Ensure Infant_Mortality_Rate is numeric
finaldata <- finaldata %>%
  mutate(Infant_Mortality_Rate = as.numeric(Infant_Mortality_Rate))

# Filter data for years 2000 to 2019
filtered_data <- finaldata %>%
  filter(year >= 2000 & year <= 2019)

# Group by year and region, and calculate the average Infant Mortality Rate for each combinat
avg_infant_mortality <- filtered_data %>%
  group_by(year, region) %>%
  summarise(avg_IMR = mean(Infant_Mortality_Rate, na.rm = TRUE)) %>%
  ungroup()
```

`summarise()` has grouped output by 'year'. You can override using the
`.groups` argument.

```
# Create the line plot with a line for each region
ggplot(avg_infant_mortality, aes(x = year, y = avg_IMR, color = region)) +
  geom_line(size = 1) +               # Create the lines
  labs(title = "Average Infant Mortality Rate (2000-2019) by Region",
       x = "Year",
       y = "Average Infant Mortality Rate") +
  theme_minimal() +                   # Apply a minimal theme
  theme(legend.title = element_blank()) # Remove legend title
```

```
Warning: Using `size` aesthetic for lines was deprecated in ggplot2 3.4.0.
i Please use `linewidth` instead.
```
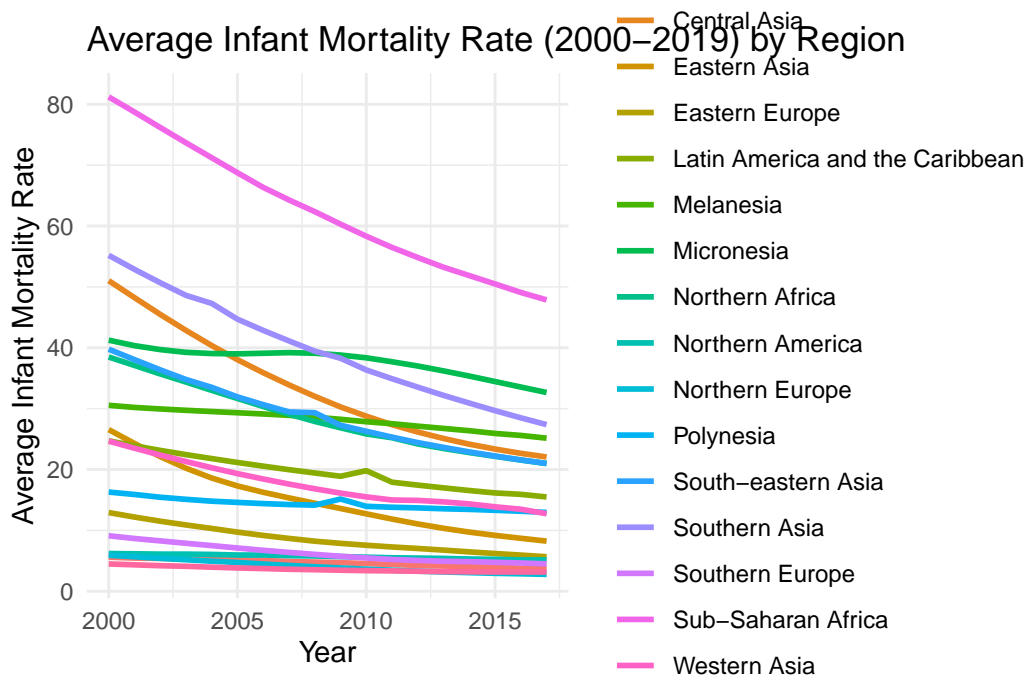

Average Infant Mortality Rate (2000–2019) by Region

```
library(ggplot2)
library(dplyr)

finaldata <- finaldata %>%
  mutate(Infant_Mortality_Rate = as.numeric(Infant_Mortality_Rate))

filtered_data <- finaldata %>%
  filter(year >= 2000 & year <= 2019 & region == "Sub-Saharan Africa")

scaling_factor <- 10  # Adjust this value based on your data
```

```
avg_infant_mortality_conflict <- filtered_data %>%
  group_by(year) %>%
  summarise(avg_IMR = mean(Infant_Mortality_Rate, na.rm = TRUE),
            conflict_count = sum(conflict, na.rm = TRUE),
            .groups = 'drop')

ggplot() +
  geom_line(data = avg_infant_mortality_conflict, aes(x = year, y = avg_IMR, color = "Infant
  geom_line(data = avg_infant_mortality_conflict, aes(x = year, y = conflict_count * scaling_
  scale_y_continuous(sec.axis = sec_axis(~./scaling_factor, name = "Conflict Count")) +
  labs(title = "Trends in Infant Mortality Rate and Conflict Count (2000-2019) - Sub-Saharan
       x = "Year",
       y = "Average Infant Mortality Rate") +
  theme_minimal() +
  scale_color_manual(name = "", values = c("Infant Mortality Rate" = "blue", "Conflict Count"
  theme(legend.position = "top")
```


Trends in Infant Mortality Rate and Conflict Count (2000–2019)