

Exploratory Data Analysis

Luke

Tables for Mortality Rates

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

```
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.

```
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.

```
# 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 <chr>	country_name <chr>	avg_infant_mortality <dbl>	category <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 <chr>	country_name <chr>	avg_infant_mortality <dbl>	category <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 <chr>	country_name <chr>	avg_infant_mortality <dbl>	category <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 <chr>	country_name <chr>	avg_infant_mortality <dbl>	category <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 <chr>	country_name <chr>	avg_infant_mortality <dbl>	category <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

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()
```

```

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 <chr>	country_name <chr>	avg_infant_mortality <dbl>	category <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 <chr>	country_name <chr>	avg_infant_mortality <dbl>	category <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

```
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(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.

```
# 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 <chr>	country_name <chr>	avg_infant_mortality <dbl>	category <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 <chr>	country_name <chr>	avg_infant_mortality <dbl>	category <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 <chr>	country_name <chr>	avg_infant_mortality <dbl>	category <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

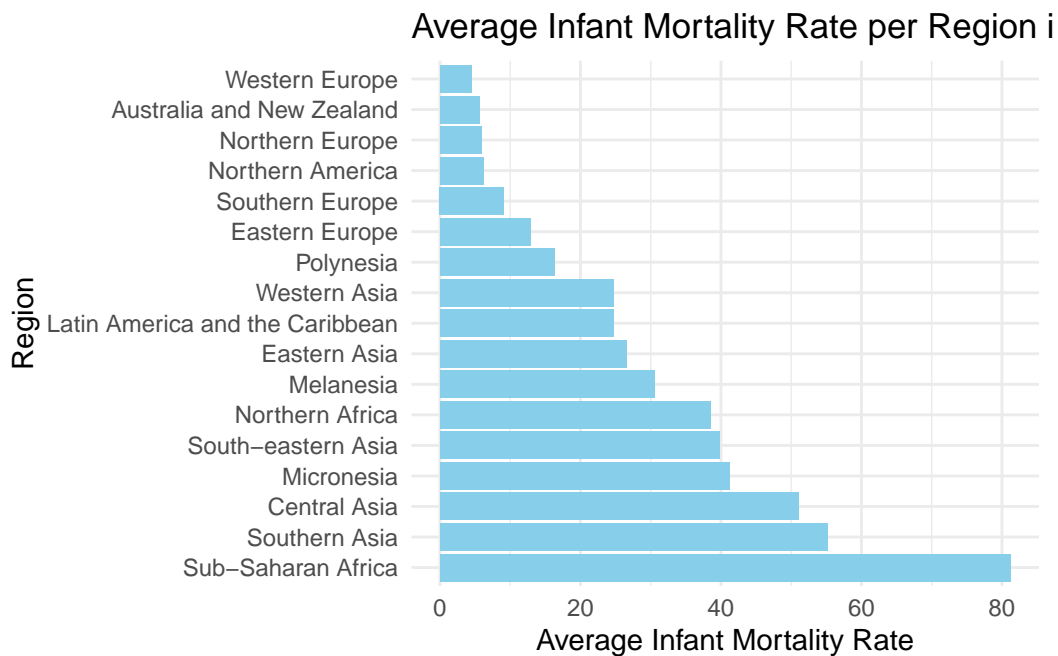
```
library(ggplot2)
library(dplyr)

# 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

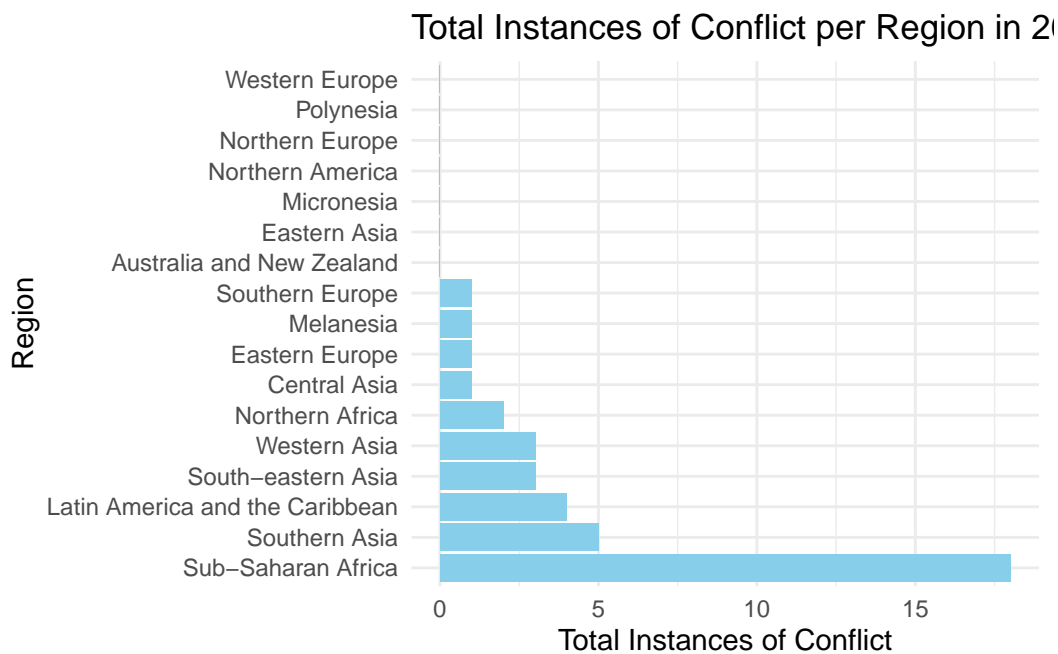
Instances of Conflict Per Region in 2000 and 2019

```
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_Instances)) +
  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()
```



```
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_Instances)) +
  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

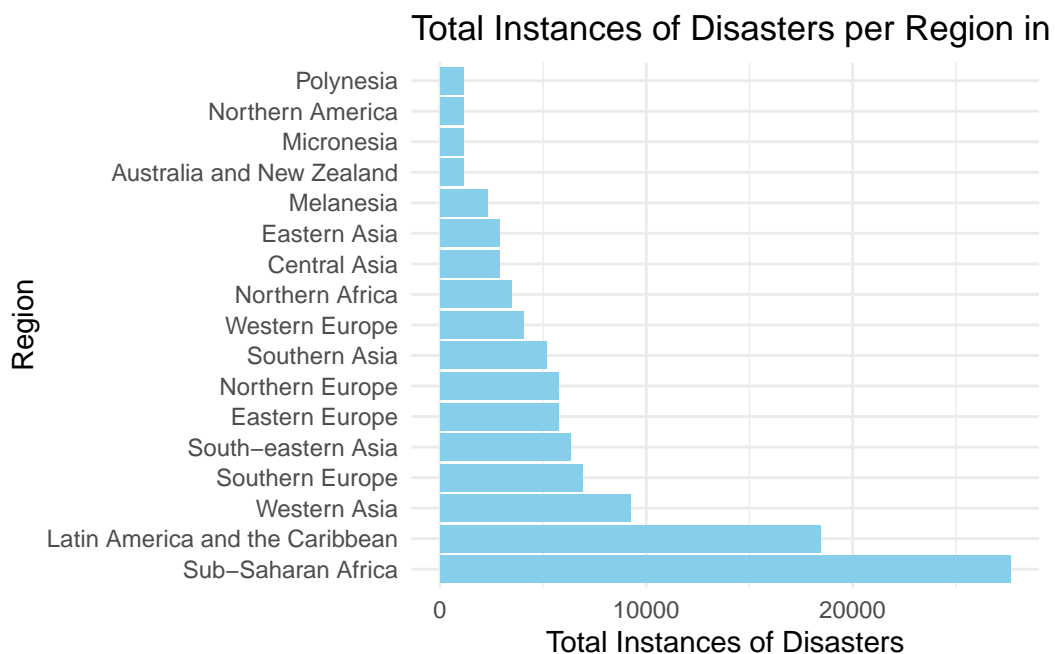
Disasters Per Region in 2000 and 2019

```
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_Instances)) +
  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()
```



```
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_Instances)) +  
  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))

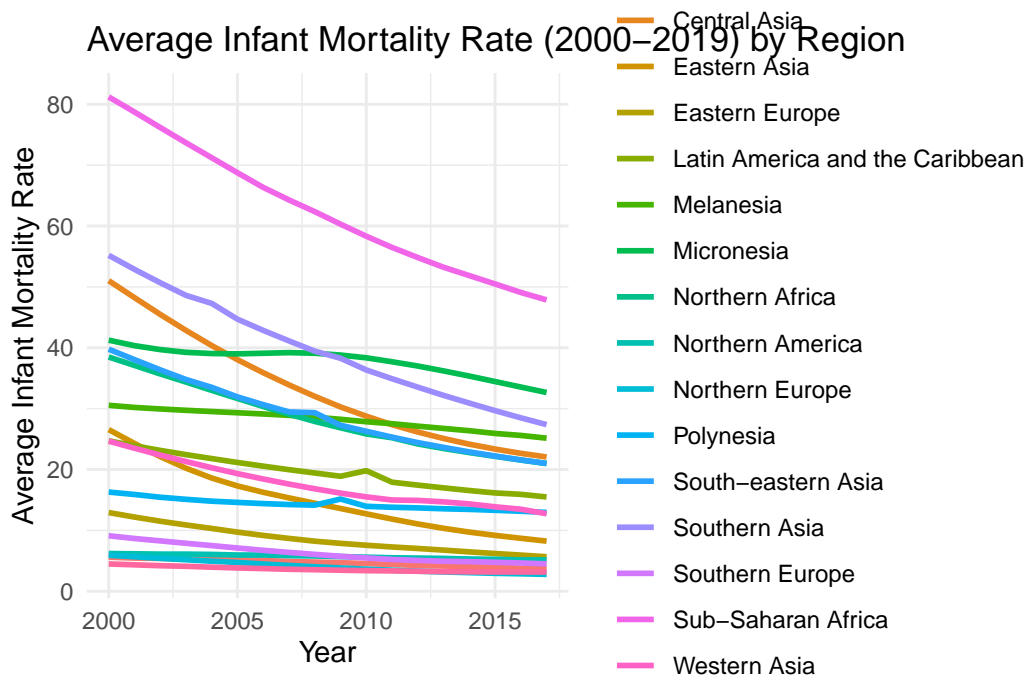
# Filter data for years 2000 to 2019
filtered_data <- finaldata %>%
  filter(year >= 2000 & year <= 2019)

# Group by year and region, and calculate the average Infant Mortality Rate for each combination
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.



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

```
# Define a scaling factor for the conflict count
scaling_factor <- 10 # Adjust this value based on your data

# Group by year, and calculate the average Infant Mortality Rate and conflict count
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), # Replace with your actual conflict count
            .groups = 'drop') # Drop grouping to avoid warnings

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

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

