Homicide Trends in European Cities (2000–2007)

290353

```
library(dplyr)
```

```
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
```

```
library(ggplot2)
```

```
data <- read.csv("estat_crim_hom_city_filtered_en.csv.gz")
```

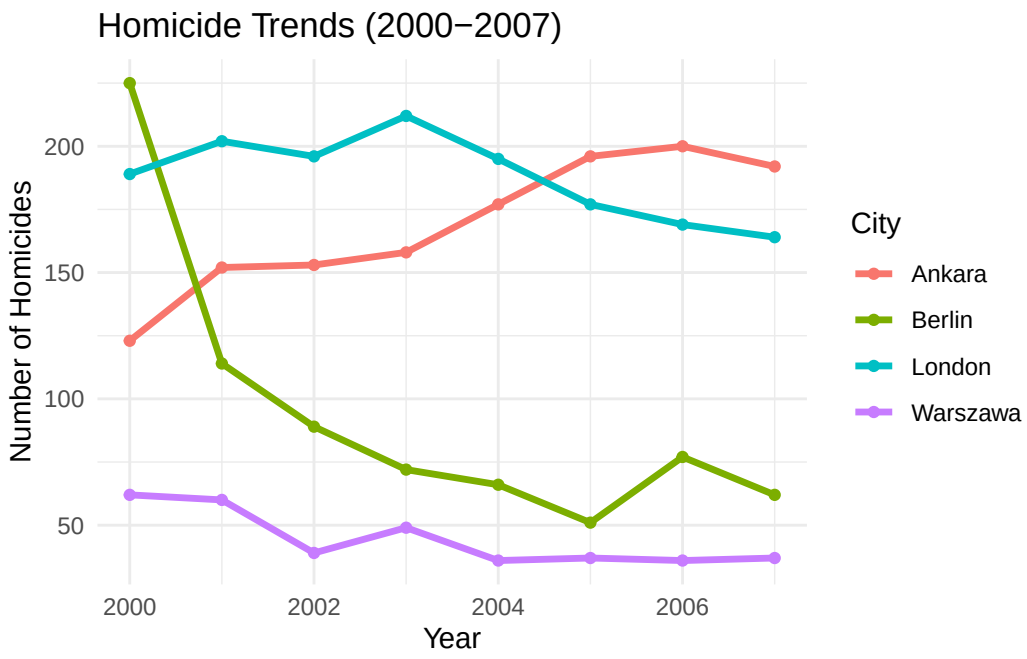
```
clean_data <- data %>%
  select(city = Geopolitical.entity..declaring.,
         year = TIME_PERIOD,
         homicides = OBS_VALUE)

head(clean_data)
```

```
    city year homicides
1 Berlin 2000       225
2 Berlin 2001       114
```

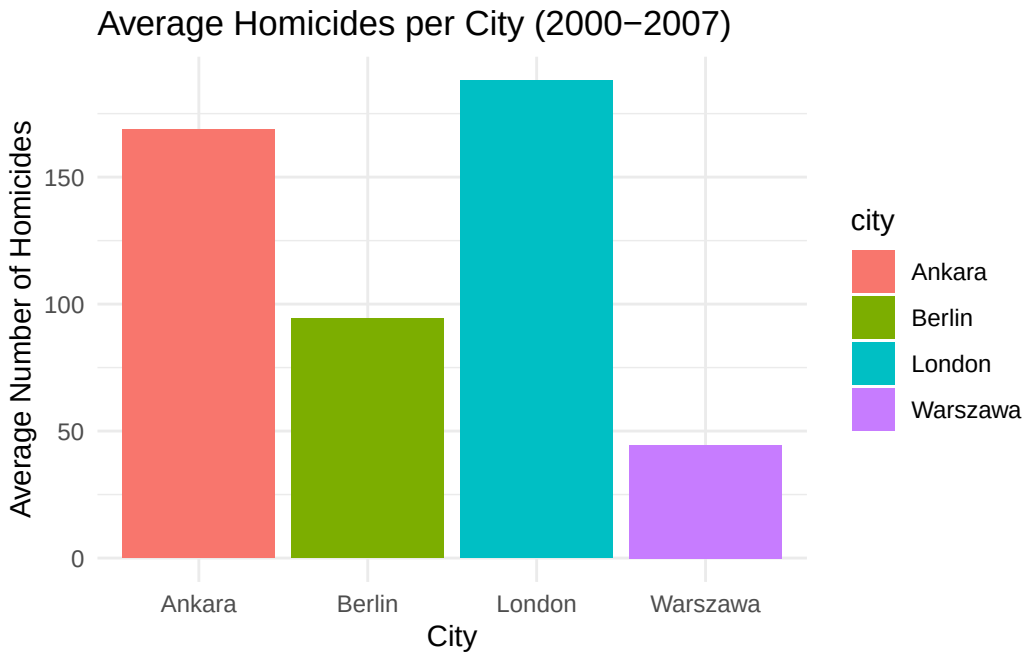
```
3 Berlin 2002         89
4 Berlin 2003         72
5 Berlin 2004         66
6 Berlin 2005         51
```

```r
ggplot(clean_data, aes(x = year, y = homicides, color = city)) +
  geom_line(size = 1.2) +
  geom_point() +
  labs(
    title = "Homicide Trends (2000-2007)",
    x = "Year",
    y = "Number of Homicides",
    color = "City"
  ) +
  theme_minimal()
```

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



```r
avg_data <- clean_data %>%
  group_by(city) %>%
  summarise(avg_homicides = mean(homicides, na.rm = TRUE))

ggplot(avg_data, aes(x = city, y = avg_homicides, fill = city)) +
  geom_col() +
  labs(
    title = "Average Homicides per City (2000-2007)",
    x = "City",
    y = "Average Number of Homicides"
  ) +
  theme_minimal()
```



```r
total_by_year <- clean_data %>%
  group_by(year) %>%
  summarise(total = sum(homicides, na.rm = TRUE))

ggplot(total_by_year, aes(x = year, y = total)) +
  geom_line(color = "steelblue", size = 1.2) +
  geom_point(color = "steelblue") +
  labs(
    title = "Total Homicides Across All Cities (2000-2007)",
    x = "Year",
    y = "Total Number of Homicides"
  ) +
  theme_minimal()
```