Brief written intro to the assignment

For this assignment, I created a 4 slide presentation where I investigated urban social disorder, specifically comparing outcomes with and without fatalities (Death vs. No Death), to understand the dynamics within rapidly expanding urban regions. My focus was on the increasing global urbanization and the associated challenges related to social disorder. The aim was to explore mortality trends in urban environments using a comprehensive dataset. I delved deeply into this dataset, employing selection criteria that targeted capital cities worldwide and those with population growth exceeding 1000% between 1960 and 2014. I highlighted the significant milestone where more people currently reside in cities than rural areas for the first time in history, a trend projected to exceed 70% by 2050. Consequently, concerns have been raised regarding premature industrialization, poverty, inequality, and overpopulation in certain regions. Additionally, the dataset provided insights into urban violence on a global scale. I created multiple slides with marplot graphs to show the visualization aspect. The primary objective was to visualize and analyze trends using data visualization techniques. I employed R programming with libraries such as ggplot2, dplyr, and readxl for data manipulation and visualization.Key findings and insights from the dataset highlighted the milestone where urban populations surpassed rural populations for the first time in history. This trend is projected to exceed 70% by 2050, raising concerns about premature industrialization, poverty, inequality, and overpopulation in urban areas.The presentation consisted of four slides incorporating ggplot2 visualizations to illustrate average events per decade, average number of deaths, and average number of non-death events over time. Each visualization aimed to convey trends and patterns related to urban social disorder dynamics.

```
---
title: "Analysis of Events and Fatalities in Urban Areas"
author: "Bandar Alsharhan"
date: "2024-04-29"
institute: alsharhanbandar1@gmail.com
output: beamer_presentation
theme: "Malmoe"
colortheme: "beaver"
fontisze: 10pt
classoption: "aspectration=169"
---

```{r, include = FALSE}
library(haven)
library(dplyr)
library(readxl)
library(ggplot2)
library(haven)
library(knitr)
library(patchwork)
```
```

```
knitr::opts_chunk$set(
  echo = FALSE,
  prompt = FALSE,
  tidy = FALSE,
  comment = NA,
  message = FALSE,
  warning = FALSE,
  fig.align = 'center')
```

Introduction
- Global urbanization has surpassed rural population for the first time.
- Expected urbanization rate to exceed 70% by 2050.
- Rise in urban social disorder alongside urbanization.
- This Dataset covers 186 national capitals and major urban centers from 1960 to 2014.
- This new data opens up exciting opportunities for future research in areas such as democratization and contested elections, impacts of climate change on food security, and interactions between various forms of mobilization and violence.

```{r, echo=FALSE}
cities <- read_dta("cities.dta")
events <- read_dta("events.dta")
```

Average Number of Events Per Decade Visualization
```{r, echo = FALSE}
merged_df <- merge(cities, events, by = "CITY_ID", all.x = TRUE)
newdf <- merged_df |>
select(CITY_ID, NEVENTS, EYEAR) |>
mutate(decade = floor(EYEAR / 10) * 10)
average_events <- newdf |>
group_by(decade) |>
summarize(avg_events = mean(NEVENTS, na.rm = TRUE))
```

```{r, out.width= "70%", out.height= "83%"}
Graph1 = ggplot(average_events, aes(x = decade, y = avg_events)) +
  geom_bar(stat = "identity", fill = "forestgreen") +
  labs(x = "Decades", y = "Average Number of Events",
       title = "Average Number of Events Per Decade") +
  theme_minimal() +
  theme(axis.text.x = element_text(angle = 90, vjust = 0.9),
```

```
        axis.line = element_line(color = "black", size = 0.9),
        axis.text.y = element_text(hjust = 0.5),
        plot.title = element_text(hjust = .5,size = 20, face = "bold"),
        panel.grid.major = element_blank(),
        panel.grid.minor = element_blank()) +
  scale_y_continuous(expand = c(0, 0))
print(Graph1)
```

```{r, echo=FALSE}
merged_df <- merge(cities, events, by = "CITY_ID", all.x = TRUE)

newdfVis2 <- merged_df |>
  select(CITY_ID, DEATHEVENTS, EYEAR) |>
  mutate(decade = floor(EYEAR / 10) * 10)

average_eventsVis2 <- newdfVis2 |>
  group_by(decade) |>
  summarize(avg_events2 = mean(DEATHEVENTS, na.rm = TRUE))

newdfVis3 <- merged_df |>
  select(CITY_ID, NODEATHEVENTS, EYEAR) |>
  mutate(decade = floor(EYEAR / 10) * 10)

average_eventsVis3 <- newdfVis3 |>
  group_by(decade) |>
  summarize(avg_events3 = mean(NODEATHEVENTS, na.rm = TRUE))
```

Average Number of Deaths and No Deaths Per Decade Visualization
```{r, out.width= "70%", out.height= "83%"}
Graph2 <- ggplot(average_eventsVis2, aes(x = decade, y = avg_events2)) +
  geom_bar(stat = "identity", fill = "orange") +
  labs(x = "Decades", y = "Average Number of Deaths",
       title = "Average Number of Deaths Per Decade") +
  theme_minimal() +
  theme(axis.text.x = element_text(angle = 90, vjust = 0.5),
        axis.line = element_line(color = "black", size = 0.5),
        axis.text.y = element_text(hjust = 0.5),
        plot.title = element_text(hjust = 0.5, face = "bold"),
        panel.grid.major = element_blank(),
        panel.grid.minor = element_blank()) +
  scale_y_continuous(expand = expansion(add = c(0, 0)), limits = c(0, 150))
```

```
Graph3 <- ggplot(average_eventsVis3, aes(x = decade, y = avg_events3)) +
  geom_bar(stat = "identity", fill = "blue") +
  labs(x = "Decades", y = "Average Number of No Deaths",
       title = "Average Number of No Deaths Per Decade") +
  theme_minimal() +
  theme(axis.text.x = element_text(angle = 90, vjust = 0.5),
        axis.line = element_line(color = "black", size = 0.5),
        axis.text.y = element_text(hjust = 0.5),
        plot.title = element_text(hjust = 0.5, face = "bold"),
        panel.grid.major = element_blank(),
        panel.grid.minor = element_blank()) +
  scale_y_continuous(expand = expansion(add = c(0, 0)), limits = c(0, 150))

Graph2 + Graph3

```