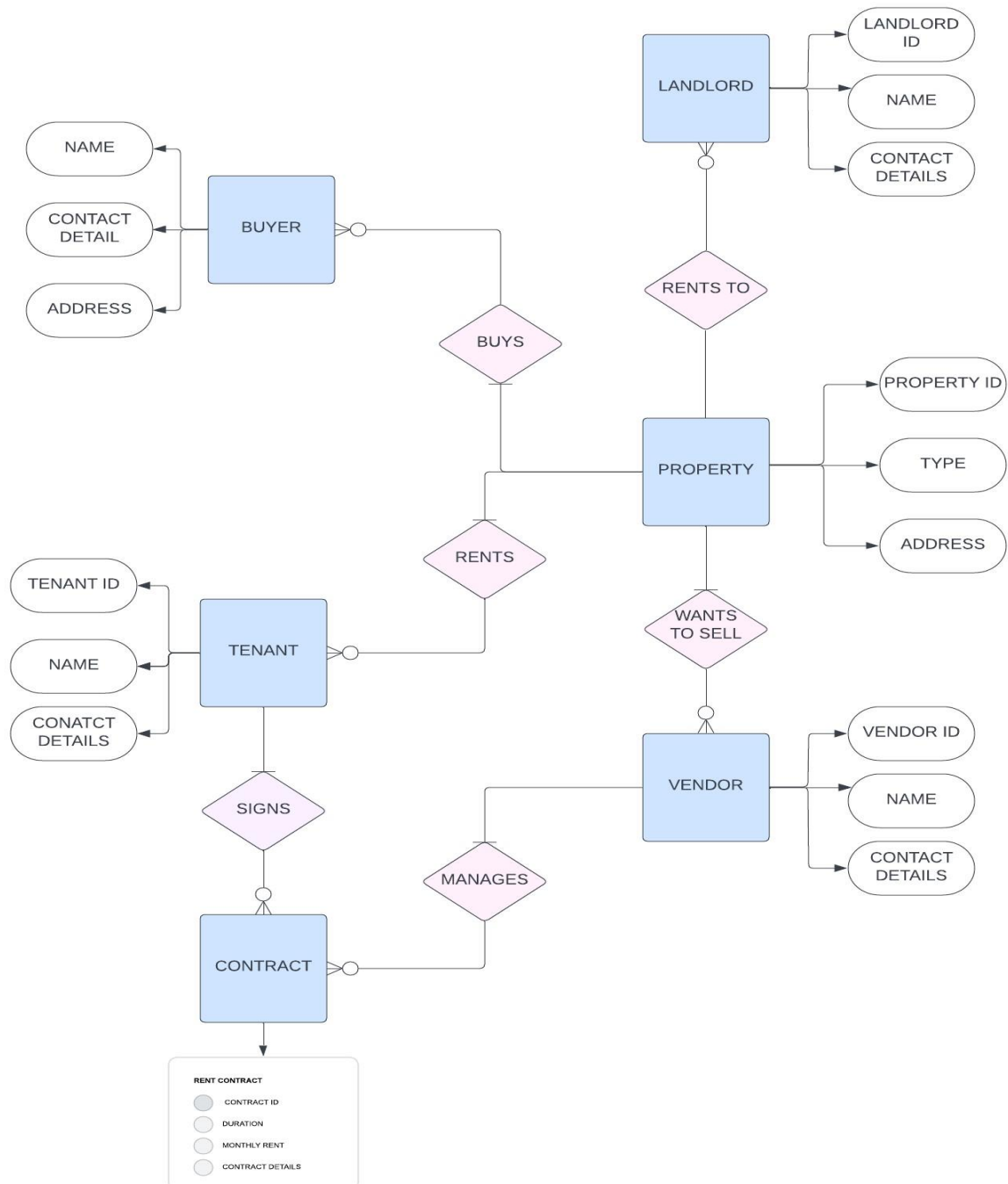# DATA ANALYTICS IN ACTION

PART B:

DATA HANDLING WITH VISUALISATION

Word count
484

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PROBLEM 1

1) An Estate Agency Database- ER diagram

This ER diagram provides a comprehensive overview of the relationships within the estate agency database, facilitating a clear understanding of how properties, vendors, buyers, landlords, tenants, and contracts interact in the real estate transactions.

PROBLEM 2

2-1) Data Cleaning

Name of the Column	Situation of the Column	Cleaning actions/ steps	Justification
Continent	Spelling mistakes	• Replace 'Afric' with 'Africa' • Replace 'Asi' with 'Asia' • Replace 'ASIA' with 'Asia' • Replace 'Euro' with 'Europe' • Replace 'N America' with 'North America	Correcting typographical errors for consistency and accuracy.
CO2kt	Missing values(x%)	Impute missing values (e.g., median)	Preserving data integrity and maintaining statistical relevance.
HealthPC$	Missing values (y%)	Impute missing values (e.g., median)	Preserving data integrity and maintaining statistical relevance.

FIGURE 2: Table Of Data Cleaning Action for Economic Indicators

In conclusion, the data cleaning process included correcting typographical errors in the 'Continent' column and using median imputation to handle missing values in the 'CO2kt' and 'HealthPC$' columns. These steps help to prepare a more accurate and reliable dataset for further analysis.

2-2) Worldwide effect of pandemic on economic indicators

(2019 vs 2020)

1. GDP PER CAPTITA:

There was a decrease in the worldwide GDPPC from 2019 to 2020. The mean GDPPC experienced a decline from $17,858.37 in 2019 to $16,590.26 in 2020. This suggests that an international economic downturn ensued amidst the pandemic.
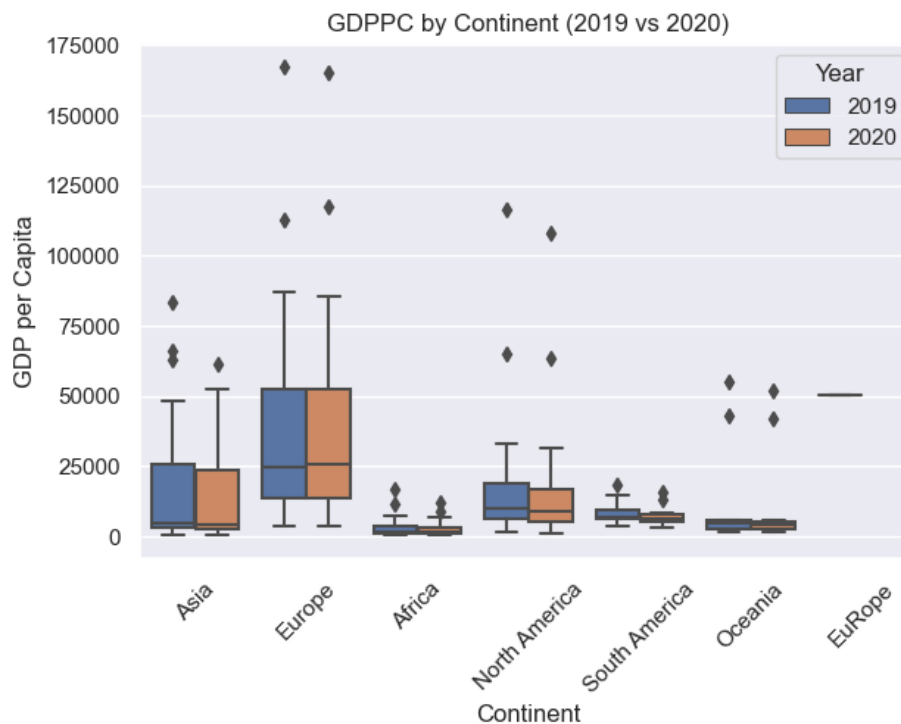

Figure 2: GDPPC by continent

2. LIFE EXPECTANCY:

It's an important health indicator, fell slightly from 73.35 years in 2019 to 72.67 years in 2020. The decline can be attributed to a variety of factors, including the pandemic's direct and indirect effects on public health.
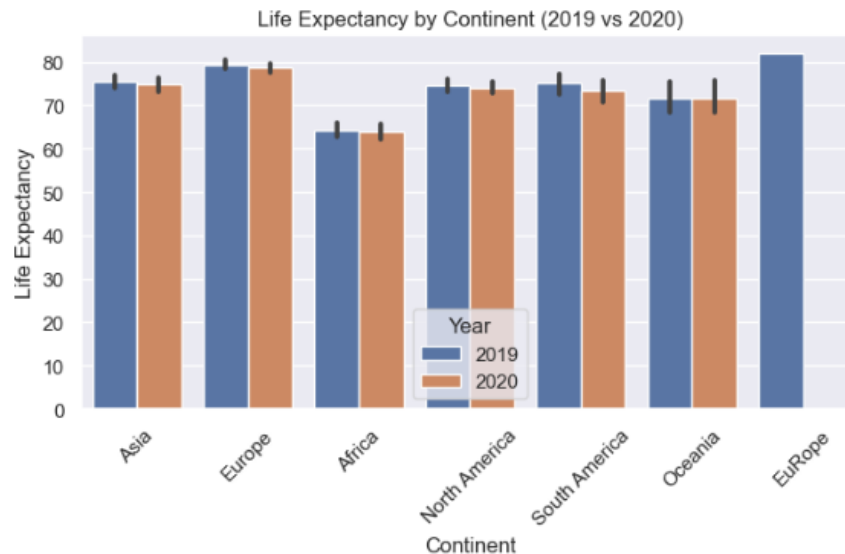
Figure 4: Life expectancy by continent

3. HEALTHCARE SPENDING PER CAPITA:

In contrast to the economic downturn, global healthcare spending per capita increased. The average spending in 2019 was $1,112,17, and it is expected to rise to $1,228.64 in 2020. This suggests a greater emphasis on healthcare during the pandemic.
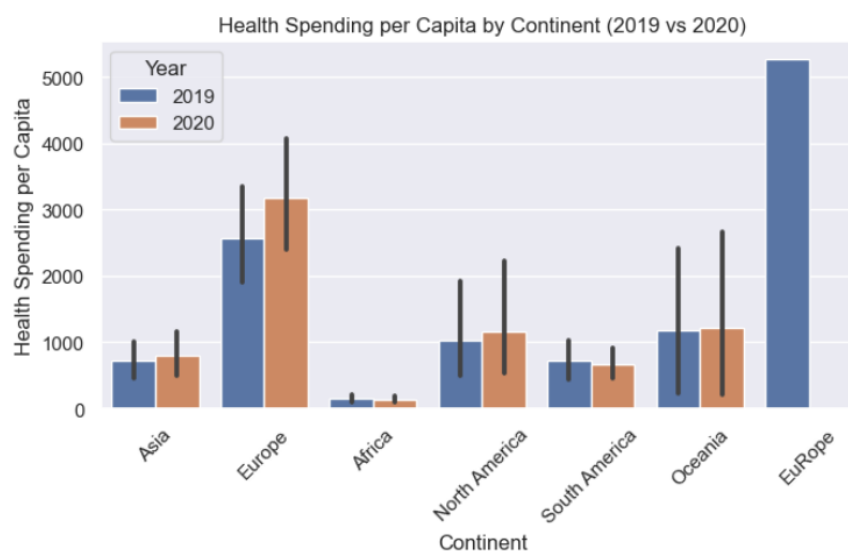

Figure 5: Health Spending per capita by continent

4. CO2 EMISSIONS PER CAPITA

From 2019 to 2020, CO_2 emissions per capita remained stable. In 2019, the global average was 186,390.26 kt, rising to 188,213.10 kt in 2020. This shows that, despite the economic downturn, environmental impacts remained consistent.
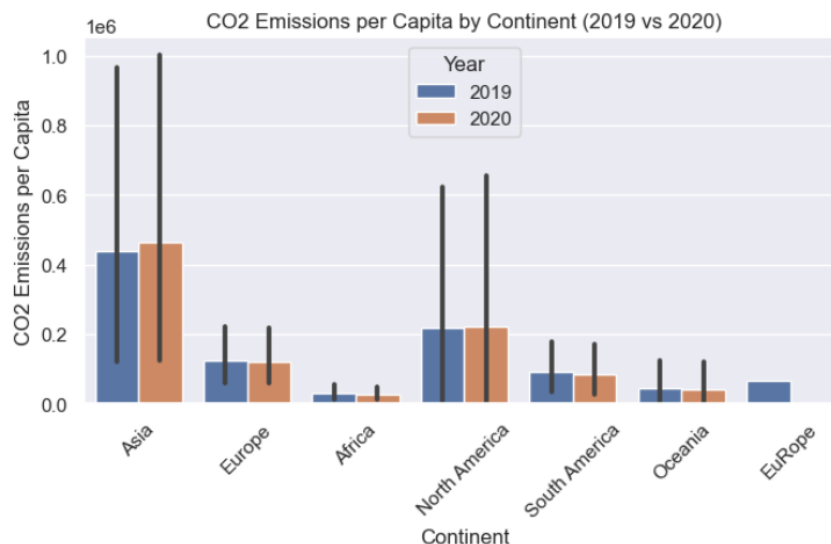

Figure 6: CO2 Emission by continent

CONCLUSION:

The COVID-19 pandemic had a significant impact on the global economy, as evidenced by the GDPPC decline. Increased healthcare spending, on the other hand, indicates a focus on public health. The marginal decrease in life expectancy may necessitate further research. The consistency of CO_2 emissions points to a complex relationship between economic activity and environmental impact.

This study provides an overview of the pandemic's multifaceted effects on the global economy. More research and nuanced investigations are required to fully comprehend the magnitude of global changes experienced during this unprecedented time.

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