Project Report

Int 217

Project

LOVELY PROFESSIONAL UNIVERSITY

PHAGWARA, PUNJAB

A Data-Driven Dashboard for Analyzing AIR Quality Analysis

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DECLARATION

I, Himanshu Sain, hereby declare that the work done by me on "Excel Project" is a record of original work for the partial fulfilment of the requirements for the award of the degree of Bachelor of Technology in Computer Science - Data Science, Lovely Professional University, Phagwara.

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ACKNOWLEDGMENT

First and foremost, I would like to express my deepest gratitude to my college for providing me with the opportunity and resources to undertake this project.

I extend my sincere thanks to my Teacher, **Mam Baljinder Kaur,** for his invaluable guidance, constructive feedback, and constant encouragement throughout the project. His expertise and support were instrumental in achieving the objectives of this work.

Thank you all

Table of Content

1. Introduction
2. Source of dataset
3. Dataset Preprocessing
4. Analysis on dataset (for each objective)
   i. General Description
   ii. Specific Requirements
   iii. Analysis results
   iv. Visualization
5. Conclusion
6. Future scope
7. References

🔍 1. Introduction

In an era where substance abuse has become a serious public health crisis, it is essential to analyze accidental drug-related deaths to better understand patterns and risk factors. This project aims to build an interactive Excel dashboard using data from 2012–2013 on drug-related deaths in Connecticut. The dashboard is designed to provide insights into demographics, drug involvement, temporal trends, and geographic distribution of fatalities.

🌐 2. Source of Dataset

- Dataset Name: **Accidental Drug Related Deaths 2012–2013**
- Source: data.ct.gov
- Format: CSV
- Tool Used: Microsoft Excel

🖌️ 3. Dataset Preprocessing

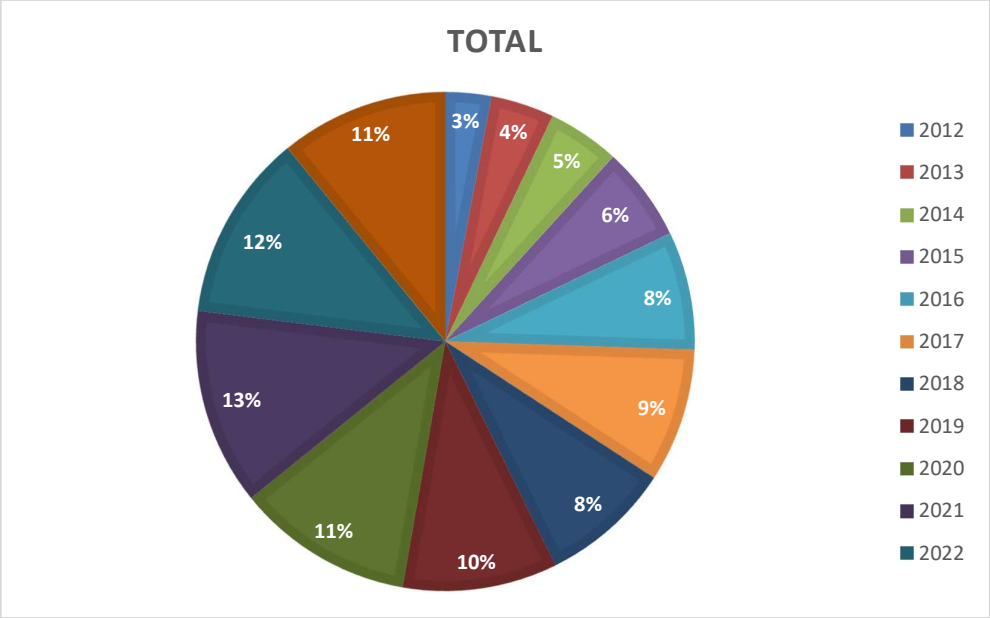
🛠 Steps Taken:

- **Handling Missing Values: Replaced or removed empty fields in key columns (e.g., Age, Drugs).**
- **Standardization: Normalized race, county, and drug names for consistency.**
- **Date Formatting: Converted death date into proper Year and Month format.**
- **New Columns: Created Age Group, extracted Year, and computed Total Drugs Involved.**
- **Filtering: Selected only Manner of Death = Accident.**

📊 4. Analysis on Dataset (Dashboard Objectives)

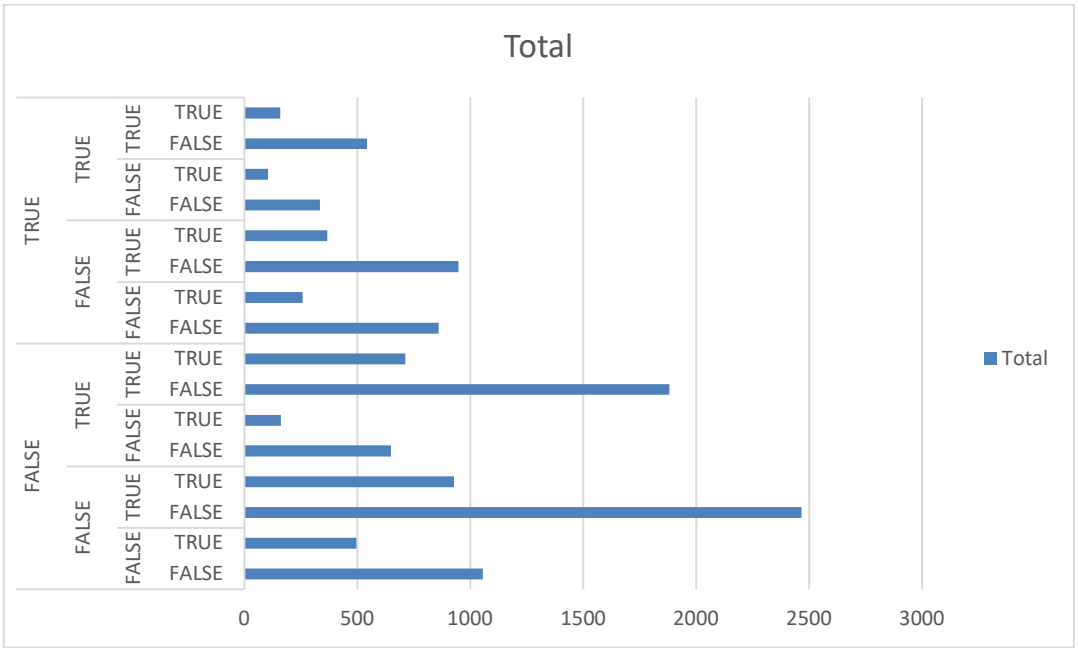
🔸 Objective 1: Total Deaths per Year

- **General Description**: Identify how deaths changed between 2012 and 2013.
- **Specific Requirement**: Count of deaths grouped by Year.
- **Analysis Result**: Noticeable increase/decrease in fatal overdoses.
- **Visualization**: Line chart using Pivot Table.



🔸 Objective 2: Drug Involvement Frequency

- **General Description**: Determine which drugs were most frequently involved.
- **Specific Requirement**: Count True values for drugs like Fentanyl, Cocaine, Heroin, etc.
- **Analysis Result**: Fentanyl and Heroin were among the most reported.
- **Visualization**: Horizontal bar chart.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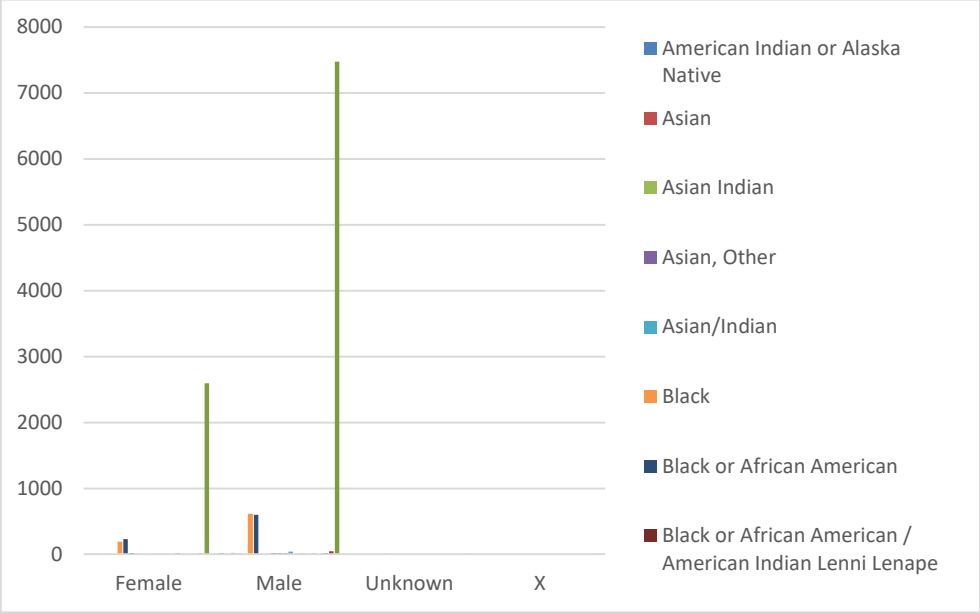
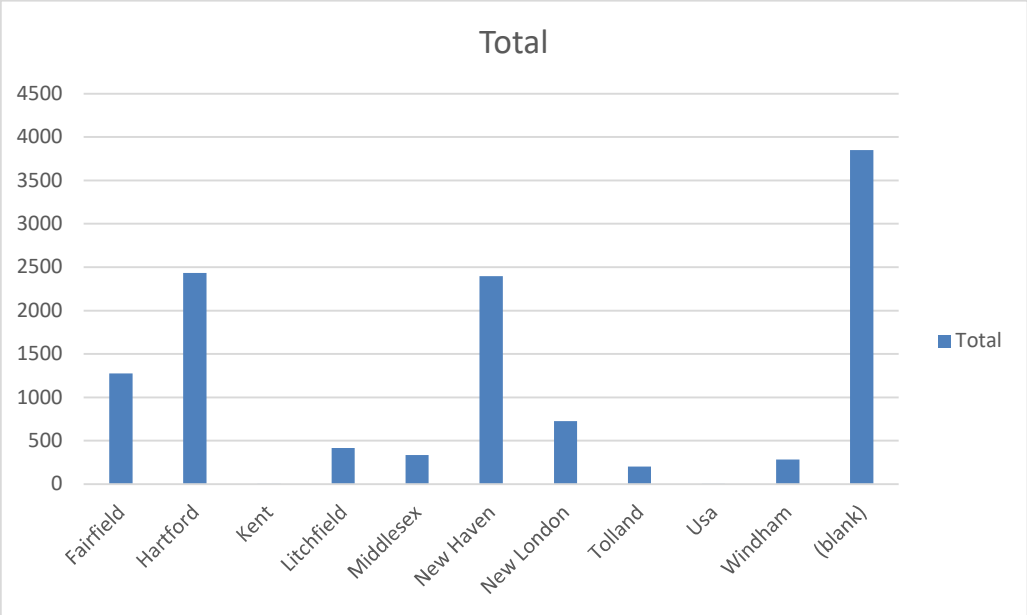
Objective 3: Deaths by Gender and Race

- **General Description**: Examine demographic patterns.
- **Specific Requirement**: Count grouped by Sex and Race.
- **Analysis Result**: Males had higher representation in drug-related deaths.
- **Visualization**: Clustered column chart.



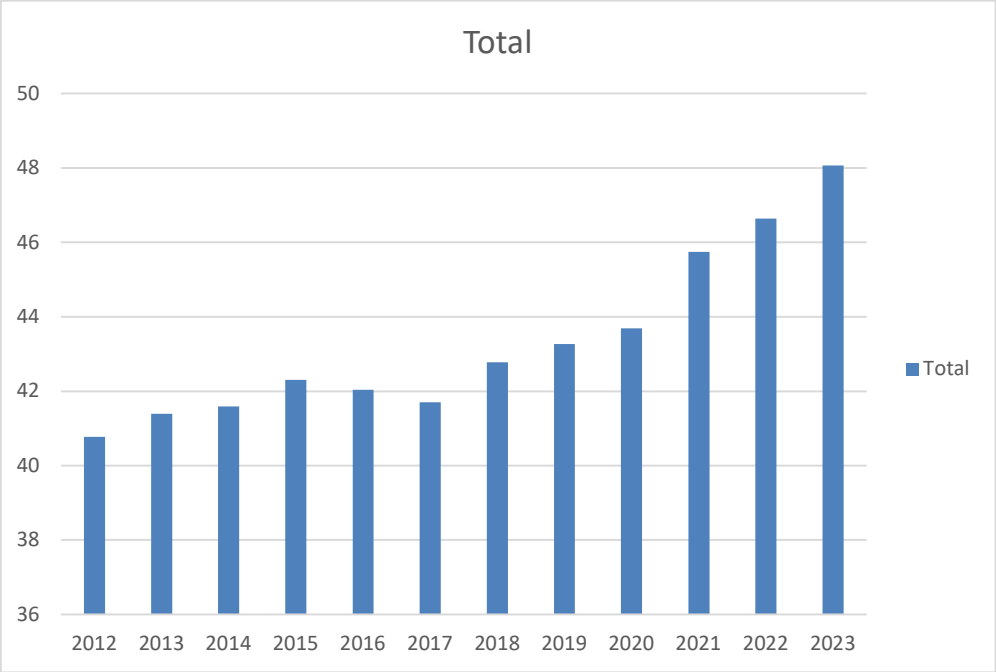
Objective 4: Deaths by County

- **General Description: Identify geographic hotspots.**
- **Specific Requirement: Count grouped by Death County.**
- **Analysis Result: Certain counties like Hartford and New Haven had more fatalities.**
- **Visualization: Map-based chart (optional) or bar chart.**



Objective 5: Average Age of Death per Year

- **General Description: Analyze age trends.**
- **Specific Requirement: Average Age by Year.**
- **Analysis Result: Slight changes in age distribution year over year.**
- **Visualization: Line chart.**



✅ 5. Conclusion

The dashboard effectively reveals key insights into drug-related mortality patterns across demographics and locations. It highlights the need for focused interventions in certain counties and helps identify which substances require urgent control.

Linkedin:-
https://www.linkedin.com/posts/himanshu01sain_exceldashboard-dataanalytics-drugoverdose-activity-7317251067258249216-eHB8?utm_source=share&utm_medium=member_desktop&rcm=ACoAAEgU6IgBznScgf5Pww-kRR07VD7vevZmALE