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An Analysis of Mass Shootings from 2017 to 2022

Main Objective

To create a website that provides people information about U.S. mass shootings in the form of dashboards, infographics, articles, etc.

- The dashboards could provide the users an interactive way to look at the patterns of past mass shootings.
- The infographics could provide a snapshot of each year's data.
- The articles could provide background knowledge on mass shootings.

Data Sources

1) Mass Killings in America from The Associated Press

   https://data.world/associatedpress/mass-killings-public

   a) Incident Characteristics: This dataset describes the incidents of the mass killings.

Name	Definition	Data Type	Possible Values	Required?
incident_id	A unique number identifying the incident.	int64	597, 596	Yes
date	The date of the incident.	object	2024-01-13, 2024-01-05	No
city	The city where the incident occurred.	object	Richmond, Reedley	No
county	The county where the incident occurred.	object	Fort Bend County, Fresno County	No

state	The state where the incident occurred.	object	TX, CA	No
num_offenders	The number of offenders.	int64	1, 3	No
num_victims_killed	The number of victims killed.	int64	4, 6	No
num_victims_injured	The number of victims injured.	int64	0, 3	No
firstcod	The first cause of death.	object	Shooting, Stabbing	No
secondcod	The second cause of death.	object	NaN, Smoke inhalation & burns	No
ak_47_pattern	Whether or not the incident matched the AK 47 pattern.	bool	True, False	No
ar_15_pattern	Whether or not the incident matched the AK 15 pattern.	bool	True, False	No
type	The type of incident.	object	Family, Suspected felony	No
situation_type	The situation type of the incident.	object	Family issue, Other	No
location_type	The location type of the incident.	object	Residence/Other shelter, Multiple	No
location	The location of the incident.	object	Residence, Multiple	No
gis_code	The GIS code of the incident.	float64	NaN, 4.845300e+10	No
longitude	The longitude of	float64	-95.681679,	No

	the incident.		-119.453090	
latitude	The latitude of the incident.	float64	29.67322, 36.58791	No
narrative	A summary of the incident.	object	Three adults and a child were fatally shot after which the assailant committed suicide.	No

b) Offender Characteristics: This dataset describes the offenders of the mass killings.

Name	Definition	Data Type	Possible Values	Required?
incident_id	A unique number identifying the incident.	int64	1, 2	Yes
offender_id	A unique number identifying the offender.	int64	1, 2	Yes
firstname	The first name of the offender.	object	Raul, Arturo	No
middlename	The middle name of the offender.	object	NaN, Roy	No
lastname	The last name of the offender.	object	Segura-Rodriguez, Ibarra	No
suffix	The suffix of the offender.	object	NaN, Jr.	No
age	The age of the offender.	float64	36.0, 37.0	No
race	The race of the offender.	object	Hispanic/Latino, White	No

sex	The sex of the offender.	object	Male, Female	No
suicide	Whether or not the offender committed suicide.	bool	True, False	No
deathcause	The cause of the offender's death.	object	NaN, Shooting	No
outcome	The outcome of the offender.	object	Convicted, Killed	No
criminal_justice_process	The criminal justice process of the offender.	object	Trial, Not applicable	No
sentence_type	The sentence type of the offender.	object	NaN, Life sentence	No
sentence_details	The sentence details of the offender.	object	NaN, Four consecutive life sentences	No

c) Victim Characteristics: This dataset describes the victims of the mass killings.

Name	Definition	Data Type	Possible Values	Required?
incident_id	A unique number identifying the incident.	int64	1, 2	Yes
victim_id	A unique number identifying the victim.	int64	1, 2	Yes
age	The age of the victim.	float64	25.0, 30.0	No
race	The race of the victim.	object	Hispanic/Latino, White	No

sex	The sex of the victim.	object	Male, Female	No
vorelationship	The victim's relationship with the offender.	object	Other, Acquaintance	No

d) Weapons Characteristics: This dataset describes the weapons of the mass killings.

Name	Definition	Data Type	Possible Values	Required?
incident_id	A unique number identifying the incident.	int64	2, 3	Yes
weapon_id	A unique number identifying the weapon.	int64	2, 3	Yes
weapon_type	The type of weapon.	object	gun, blunt object	No
gun_class	The gun class of the weapon.	object	LG, HG	No
gun_type	The gun type of the weapon.	object	shotgun, semiautomatic handgun	No

2) Victims of intentional homicide from the United Nations: This dataset represents the number of intentional homicide victims by country.

Name	Definition	Data Type	Possible Values	Required?
Iso3_code	A three-letter country code.	object	ARG, ARM	Yes
Country	The name of the country.	object	Argentina, Armenia	No
Region	The region of	object	Americas, Asia	No

	the country.			
Subregion	The subregion of the country.	object	Latin America and the Caribbean, Western Asia	No
Indicator	The meaning of the values.	object	Victims of intentional homicide	No
Dimension	The method of the homicides.	object	by mechanisms	No
Category	The specific mechanisms of the dimension.	object	Firearms or explosives	No
Sex	The sex of the victims.	object	Total	No
Age	The age of the victims.	object	Total	No
Year	The year of the measurements.	object	2017, 2018	No
Unit of measurement	The way the values are represented.	object	Counts, Rate per 100,000 population	No
VALUE	The count/rate of the victims.	object	1245, 18	No
Source	The source of the information.	object	CTS	No

3) Firearms Trace Data from the Bureau of Alcohol, Tobacco, Firearms and Explosives

https://www.atf.gov/resource-center/data-statistics

a) Top Calibers Recovered and Traced in the United States and Territories: This dataset organizes the number of firearms traced by the caliber and the recovery state.

Name	Definition	Data Type	Possible Values	Required?
Top Calibers	The number of firearms organized by caliber.	float64	9mm, .40 Cal	No
Recovery State	The state where the firearm was recovered.	object	ALABAMA, ALASKA	No

b) Categories Associated with Firearms Recovered and Traced in the United States and Territories: This dataset organizes the number of firearms traced by the category and the recovery state.

Name	Definition	Data Type	Possible Values	Required?
Categories	The number of firearms organized by category.	object	ABORTION, AGGRAVATED ASSAULT	No
Recovery State	The state where the firearm was recovered.	object	ALABAMA, ALASKA	No

c) Age of Possessor - Firearms Recovered and Traced in the United States and Territories: This dataset organizes the number of firearms traced by the possessor’s age and the recovery state.

Name	Definition	Data Type	Possible Values	Required?
Age of Possessor	The number of firearms organized by the possessor's age.	object	17 & Under, 18 to 21	No
State/Territory	The state where the firearm was	object	ALABAMA, ALASKA	No

	recovered.			

d) Time-to-Crime - Firearms Recovered and Traced in the United States and Territories: This dataset organizes the number of firearms traced by the time-to-crime and the recovery state.

Name	Definition	Data Type	Possible Values	Required?
Time-to-Crime	The number of firearms organized by time-to-crime.	object	Under 3 Months, 3 Months to Under 7 Months	No
State/Territory	The state where the firearm was recovered.	object	ALABAMA, ALASKA	No

e) Firearm Types Recovered and Traced in the United States and Territories: This dataset organizes the number of firearms traced by the firearm type and the recovery state.

Name	Definition	Data Type	Possible Values	Required?
Firearm Type	The number of firearms organized by firearm type.	object	ANY OTHER WEAPONS, COMBINATIONS	No
Recovery State	The state where the firearm was recovered.	object	ALABAMA, ALASKA	No