**Datafile.txt:**

Data url: https://www.kaggle.com/sobhanmoosavi/us-accidents

Data is from a kaggle competition and informed the traffic accidents which covers 49 states of the U.S. The data is collected from February 2016 to December 2019, using several data providers, including two APIs that provide streaming traffic incident data. These APIs broadcast traffic data captured by a variety of entities, such as the US and state departments of transportation, law enforcement agencies, traffic cameras, and traffic sensors within the road-networks. Currently, there are about 3.0 million accident records in this dataset.

Data shape: 49 columns, 297432 rows

**Columns:**

ID This is a unique identifier of the accident record.

SourceIndicates source of the accident report (i.e. the API which reported the accident.).

TMCA traffic accident may have a Traffic Message Channel (TMC) code which provides more detailed description of the event.

SeverityShows the severity of the accident, a number between 1 and 4, where 1 indicates the least impact on traffic (i.e., short delay as a result of the accident) and 4 indicates a significant impact on traffic (i.e., long delay).

Start\_TimeShows start time of the accident in local time zone.

End\_TimeShows end time of the accident in local time zone.

Start\_LatShows latitude in GPS coordinate of the start point.

Start\_LngShows longitude in GPS coordinate of the start point.

End\_LatShows latitude in GPS coordinate of the end point.

End\_LngShows longitude in GPS coordinate of the end point.

Distance(mi)The length of the road extent affected by the accident.

DescriptionShows natural language description of the accident.

NumberShows the street number in address field.

StreetShows the street name in address field.

SideShows the relative side of the street (Right/Left) in address field.

CityShows the city in address field.

CountyShows the county in address field.

StateShows the state in address field.

ZipcodeShows the zipcode in address field.

CountryShows the country in address field.

TimezoneShows timezone based on the location of the accident (eastern, central, etc.).

Airport\_CodeDenotes an airport-based weather station which is the closest one to location of the accident.

Weather\_TimestampShows the time-stamp of weather observation record (in local time).

Temperature(F)Shows the temperature (in Fahrenheit).

Wind\_Chill(F)Shows the wind chill (in Fahrenheit).

Humidity(%)Shows the humidity (in percentage).

Pressure(in)Shows the air pressure (in inches).

Visibility(mi)Shows visibility (in miles).

Wind\_DirectionShows wind direction.

Wind\_Speed(mph)Shows wind speed (in miles per hour).

Precipitation(in)Shows precipitation amount in inches, if there is any.

Weather\_ConditionShows the weather condition (rain, snow, thunderstorm, fog, etc.).

AmenityA Point-Of-Interest (POI) annotation which indicates presence of amenity in a nearby location.

BumpA POI annotation which indicates presence of speed bump or hump in a nearby location.

CrossingA POI annotation which indicates presence of crossing in a nearby location.

Give\_WayA POI annotation which indicates presence of give\_way sign in a nearby location.

JunctionA POI annotation which indicates presence of junction in a nearby location.

No\_ExitA POI annotation which indicates presence of no\_exit sign in a nearby location.

RailwayA POI annotation which indicates presence of railway in a nearby location.

RoundaboutA POI annotation which indicates presence of roundabout in a nearby location.

StationA POI annotation which indicates presence of station (bus, train, etc.) in a nearby location.

StopA POI annotation which indicates presence of stop sign in a nearby location.

Traffic\_CalmingA POI annotation which indicates presence of traffic\_calming means in a nearby location.

Traffic\_SignalA POI annotation which indicates presence of traffic\_signal in a nearby location.

Turning\_LoopA POI annotation which indicates presence of turning\_loop in a nearby location.

Sunrise\_SunsetShows the period of day (i.e. day or night) based on sunrise/sunset.

Civil\_TwilightShows the period of day (i.e. day or night) based on civil twilight.

Nautical\_TwilightShows the period of day (i.e. day or night) based on nautical twilight.

Astronomical\_TwilightShows the period of day (i.e. day or night) based on astronomical twilight.

**SimpleRower:**

It edits a row by outputs a paragraph of information relates to an accident.

This is the ID(String) accident. The source is coming from Source(String). TMC # is TMC(int). The impact on this traffic accident is Severity(int). Accident starts at Start\_Time(String), and ended at End\_Time(String). The length of the road extent affected by the accident is Distance(float).

Description is recorded as following:

Description(String)

The street name in address field is Street(String) on the side of (String, could be Boolean instead), City(String), County(String), State(String), zip code: Zipcode(String).

The weather condition is detailed as below:

Temperature is Temperature(float). Pressure in the air is Pressure(float). The visibility is able to see a range with the Visibility(float) miles clearly. The wind condition is Wind\_direction.

For the rest of the Booleans only print when it return trues. And print a statement related to POI(place of interest)

This place happens in a traffic condition where is (which Boolean shows true).