create database botany\_mushroom;

use botany\_mushroom;

#creating a table with columns from the dataset

create table mushrooms (

class varchar(20),

cap\_shape varchar(20),

cap\_surface varchar(20),

cap\_color varchar(20),

bruises varchar(20),

odor varchar(20),

gill\_attachment varchar(20),

gill\_spacing varchar(20),

gill\_size varchar(20),

gill\_color varchar(20),

stalk\_shape varchar(20),

stalk\_root varchar(20),

stalk\_surface\_above\_ring varchar(20),

stalk\_surface\_below\_ring varchar(20),

stalk\_color\_above\_ring varchar(20),

stalk\_color\_below\_ring varchar(20),

veil\_type varchar(20),

veil\_color varchar(20),

ring\_number varchar(20),

ring\_type varchar(20),

spore\_print\_color varchar(20),

population varchar(20),

habitat varchar(20)

);

SHOW VARIABLES LIKE 'secure\_file\_priv';

LOAD DATA INFILE 'C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/mushrooms.csv'

into table mushrooms

FIELDS TERMINATED BY ','

ENCLOSED BY '"'

LINES TERMINATED BY '\n'

IGNORE 1 ROWS

(

class,

cap\_shape,

cap\_surface,

cap\_color,

bruises,

odor,

gill\_attachment,

gill\_spacing,

gill\_size,

gill\_color,

stalk\_shape,

stalk\_root,

stalk\_surface\_above\_ring,

stalk\_surface\_below\_ring,

stalk\_color\_above\_ring,

stalk\_color\_below\_ring,

veil\_type,

veil\_color,

ring\_number,

ring\_type,

spore\_print\_color,

population,

habitat

);

#displaying the first 10 rows from the dataset/table.

SELECT \* FROM mushrooms LIMIT 10;

#displays column and its datatype.

describe mushrooms;

###Univarate Analysis.

#counts how many mushrooms are there in each class type (Edible and Poisonous)

SELECT `class`, COUNT(\*) AS count FROM mushrooms GROUP BY `class`ORDER BY count DESC;

#counts how many mushrooms are there in each cap\_shape type and shows the percentage (Convex, Flat, Knobbed, Bell, Sunken, Conical).

SELECT `cap\_shape`,COUNT(\*) AS count,ROUND(COUNT(\*) \* 100.0 / (SELECT COUNT(\*) FROM mushrooms), 2) AS percentage FROM mushrooms GROUP BY `cap\_shape`ORDER BY count DESC;

#counts how many mushrooms are there in each bruises type (Bruises and No)

SELECT bruises, COUNT(\*) AS count FROM mushrooms GROUP BY bruises;

###Bivariate Analysis

#displays the number of mushrooms in each class and odor combination.

#with this we can know if edible mushroom have some kinda specific odor.

SELECT class,odor,COUNT(\*) AS count FROM mushrooms GROUP BY class, odor ORDER BY class, count DESC;

#displays the number of mushrooms in each class and cap\_color combination.

#with this we know if edible mushroom have some kinda specific cap color.

SELECT class,cap\_color,COUNT(\*) AS count FROM mushrooms GROUP BY class, cap\_color ORDER BY class, count DESC;

#Displays the number of mushrooms in each population and habitat combination.

#With this, we can know if certain population types (like abundant or solitary) are more common in specific habitats.

SELECT habitat,population, COUNT(\*) AS count FROM mushrooms GROUP BY habitat, population ORDER BY habitat;

#displays the number of mushroom in each bruises and class combination.

#with this, we can know if poisonsous mushrrom tend to have no bruises.

SELECT bruises,class,COUNT(\*) AS count FROM mushrooms GROUP BY bruises, class;

###Mutlivariate Analysis

#Displays the count of mushrooms by class, population, and habitat.

#Helps us see if edible mushrooms are more likely to appear in specific population sizes and habitats together.

SELECT class,population,habitat,COUNT(\*) AS count FROM mushrooms GROUP BY class, population, habitat ORDER BY class, count DESC;

#Displays how cap color and odor together relate to the class (edibility).

#Useful to detect combinations of smell and appearance that indicate whether a mushroom is poisonous.

SELECT class,cap\_color,odor,COUNT(\*) AS count FROM mushrooms GROUP BY class, cap\_color, odor ORDER BY class, count DESC;

#Displays how the combination of stalk shape and habitat affects edibility.

#Could highlight if certain physical traits in specific environments are linked to poisonous mushrooms.

SELECT stalk\_shape,habitat,class,COUNT(\*) AS count FROM mushrooms GROUP BY stalk\_shape, habitat, class ORDER BY stalk\_shape, count DESC;

#display how gill size and gill color together influence whether a mushroom is edible or not.

#Useful for visual trait identification of mushrooms.

SELECT gill\_size,gill\_color,class,COUNT(\*) AS count FROM mushrooms GROUP BY gill\_size, gill\_color, class ORDER BY gill\_size, count DESC;