



mainflow task 4

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drive.mount('/content/drive')

[1] import pandas as pd

path="/content/drive/MyDrive/ data/IEA Global EV Data 2024.csv"
df=pd.read_csv(path)
df.head(5)

	region	category	parameter	mode	powertrain	year	unit	value
0	Australia	Historical	EV stock share	Cars	EV	2011	percent	0.00039
1	Australia	Historical	EV sales share	Cars	EV	2011	percent	0.00650
2	Australia	Historical	EV sales	Cars	BEV	2011	Vehicles	49.00000
3	Australia	Historical	EV stock	Cars	BEV	2011	Vehicles	49.00000

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```
# Summary statistics
print(df.describe())

# Information about the DataFrame
print(df.info())

# Check for missing values
print(df.isnull().sum())
```

	year	value
count	12654.000000	1.265400e+04
mean	2019.822112	4.273742e+05
std	5.476494	6.860498e+06
min	2010.000000	1.200000e-06
25%	2016.000000	2.000000e+00
50%	2020.000000	1.200000e+00



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```
1 category 12654 non-null object
2 parameter 12654 non-null object
3 mode 12654 non-null object
4 powertrain 12654 non-null object
5 year 12654 non-null int64
6 unit 12654 non-null object
7 value 12654 non-null float64
dtypes: float64(1), int64(1), object(6)
memory usage: 791.0+ KB
None
region 0
category 0
parameter 0
mode 0
powertrain 0
year 0
unit 0
value 0
dtype: int64
```

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value
dtype: int64



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```
import matplotlib.pyplot as plt

# Plot histograms for all continuous variables
df.hist(bins=30, figsize=(15, 10))
plt.suptitle('Distribution of Variables')
plt.show()
```



Distribution of Variables



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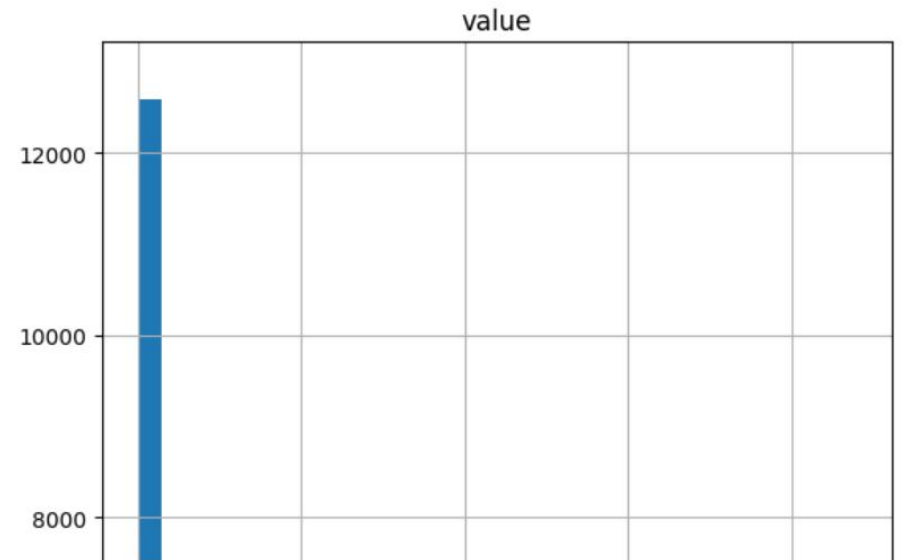
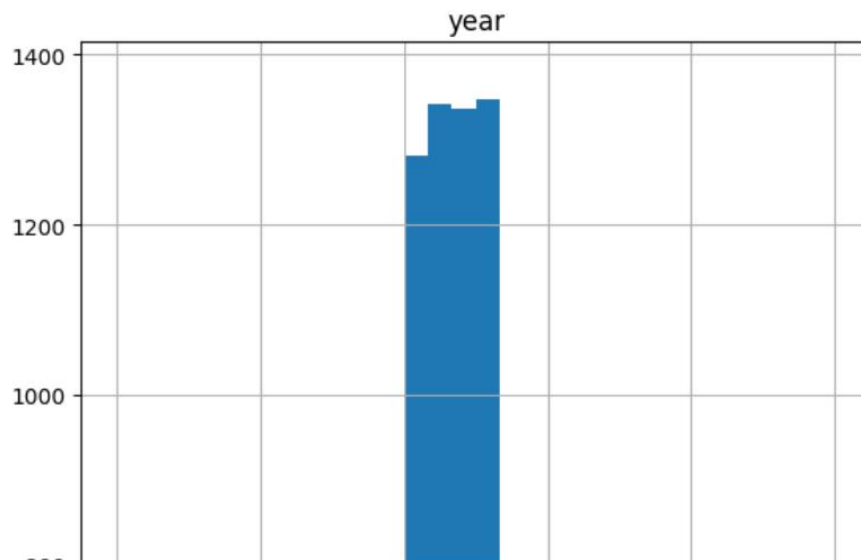
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Distribution of Variables



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```
import seaborn as sns

# Plot bar plots for all categorical variables
categorical_columns = df.select_dtypes(include=['object']).columns
for column in categorical_columns:
    plt.figure(figsize=(10, 6))
    sns.countplot(data=df, x=column)
    plt.title(f'Distribution of {column}')
    plt.xticks(rotation=45)
    plt.show()
```



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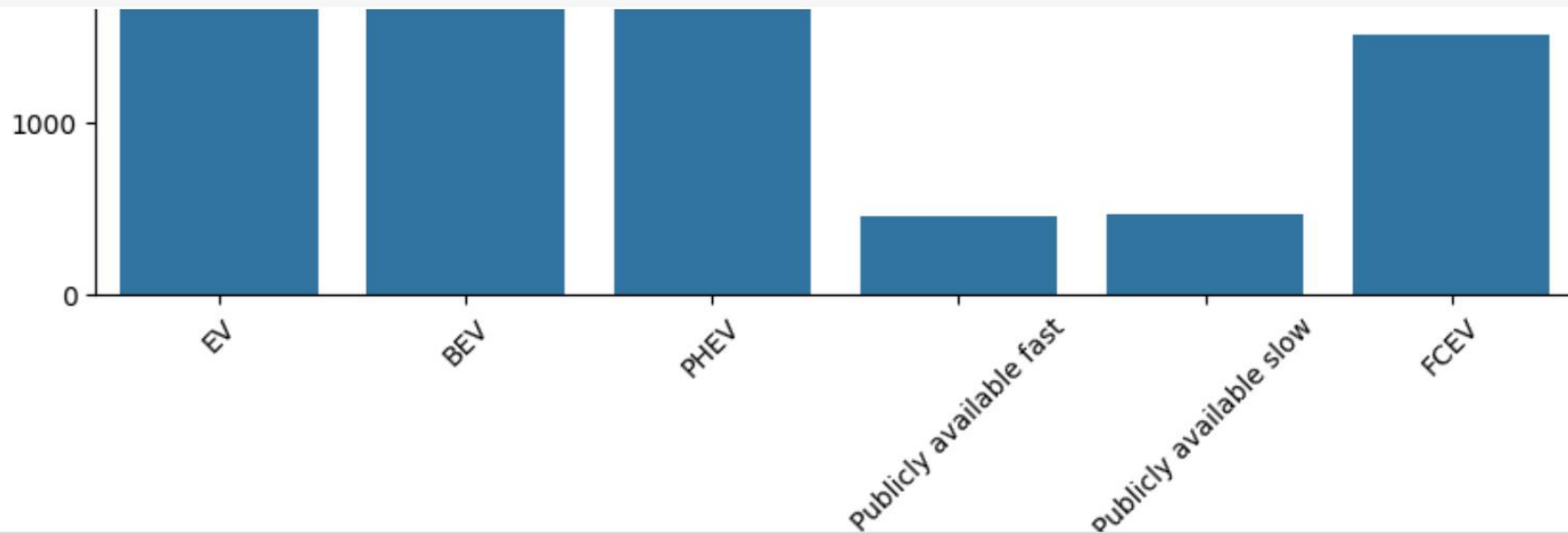
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```
plt.xticks(rotation=45)  
plt.show()
```



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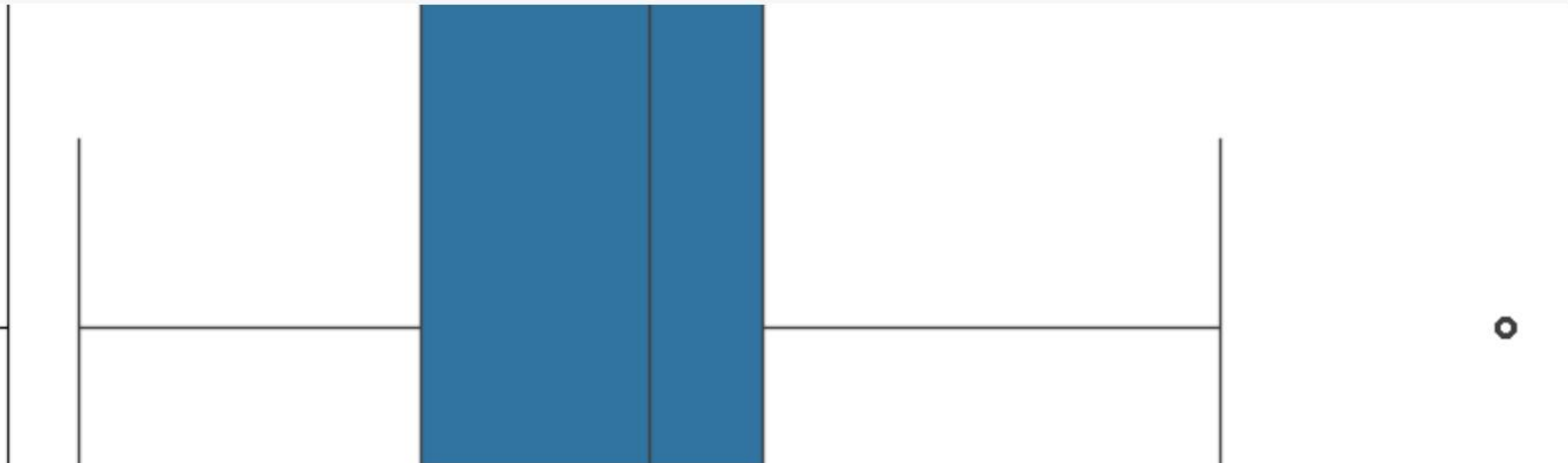
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```
for column in df.select_dtypes(include=['float64', 'int64']).columns:  
    plt.figure(figsize=(10, 6))  
    sns.boxplot(data=df, x=column)  
    plt.title(f'Box Plot of {column}')  
    plt.show()
```



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