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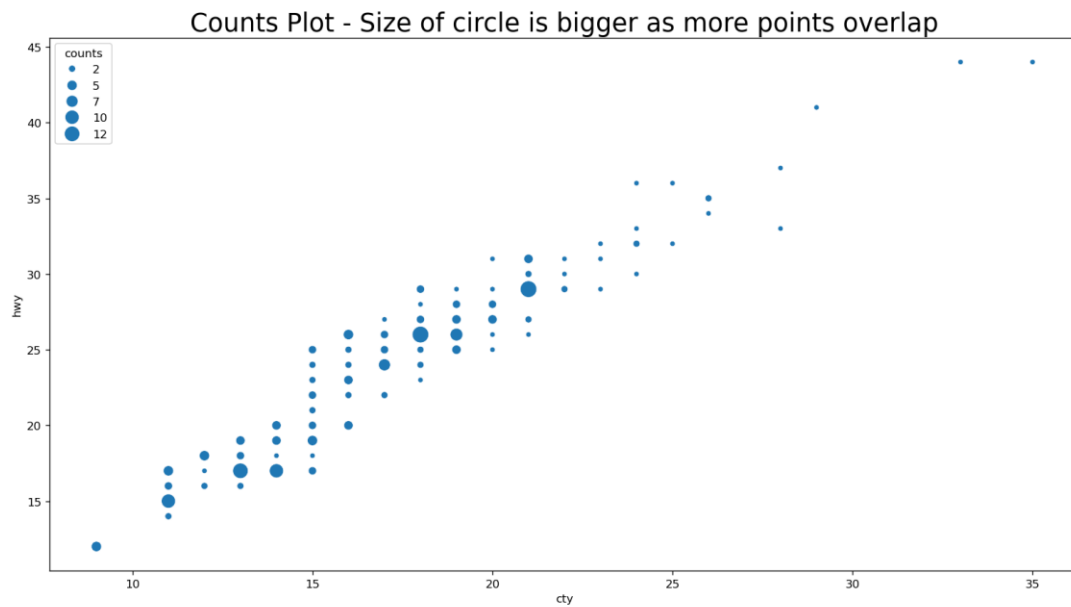
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import numpy as np

# Import Data
df = pd.read_csv("datasets/mpg_ggplot2.csv")
df_counts = df.groupby(['hwy', 'cty']).size().reset_index(name='counts')

# Draw Stripplot
fig, ax = plt.subplots(figsize=(16,10), dpi= 80)
sns.stripplot(df_counts.cty, df_counts.hwy, size=df_counts.counts*2, ax=ax)

# Decorations
plt.title('Counts Plot - Size of circle is bigger as more points overlap', fontsize=22)
plt.show()

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import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import numpy as np

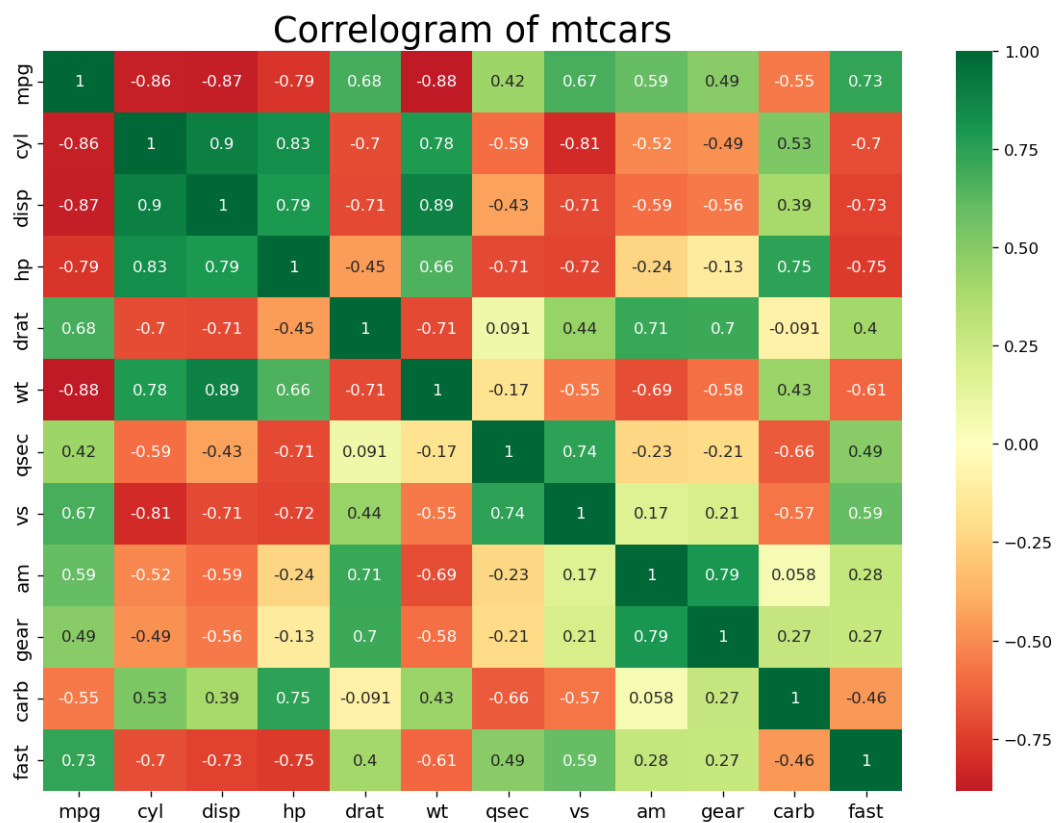
# Import Dataset
df = pd.read_csv("datasets/mtcars.csv")

# Select only numeric columns for correlation matrix
numeric_df = df.select_dtypes(include=[np.number])

# Plot
plt.figure(figsize=(12,10), dpi= 80)
sns.heatmap(numeric_df.corr(),
            xticklabels=numeric_df.corr().columns,
            yticklabels=numeric_df.corr().columns, cmap='RdYlGn', center=0, annot=True)

# Decorations
plt.title('Correlogram of mtcars', fontsize=22)
plt.xticks(fontsize=12)
plt.yticks(fontsize=12)
plt.show()

```



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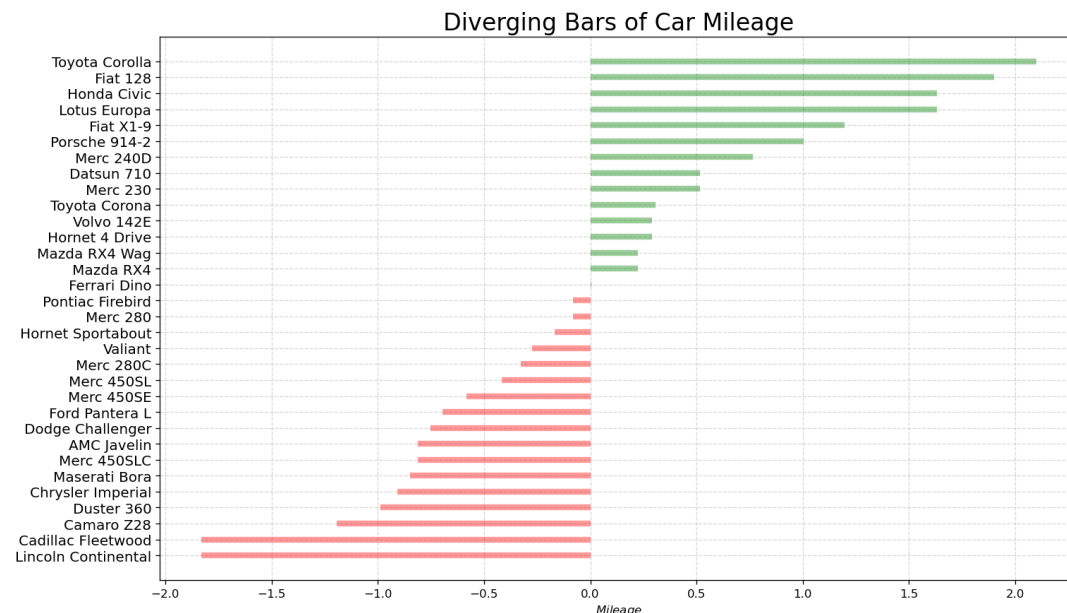
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import numpy as np

# Prepare Data
df = pd.read_csv("datasets/mtcars.csv")
x = df.loc[:, ['mpg']]
df['mpg_z'] = (x - x.mean())/x.std()
df['colors'] = ['red' if x < 0 else 'green' for x in df['mpg_z']]
df.sort_values('mpg_z', inplace=True)
df.reset_index(inplace=True)

# Draw plot
plt.figure(figsize=(14,10), dpi= 80)
plt.hlines(y=df.index, xmin=0, xmax=df.mpg_z, color=df.colors, alpha=0.4, linewidth=5)

# Decorations
plt.gca().set(ylabel='$Model$', xlabel='$Mileage$')
plt.yticks(df.index, df.cars, fontsize=12)
plt.title('Diverging Bars of Car Mileage', fontdict={'size':20})
plt.grid(linestyle='--', alpha=0.5)
plt.show()

```



```

import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import numpy as np

# Import Data
df = pd.read_csv("datasets/mpg_ggplot2.csv")

# Prepare data
x_var = 'manufacturer'
groupby_var = 'class'

# Draw
plt.figure(figsize=(16,9), dpi= 80)
sns.histplot(data=df, x=x_var, hue=groupby_var, multiple="stack", shrink=0.8)

# Decoration
plt.title(f"Stacked Histogram of {x_var} colored by {groupby_var}", fontsize=22)
plt.xlabel(x_var)
plt.ylabel("Frequency")
plt.xticks(rotation=45) # Rotate labels to avoid overlap
plt.legend(title=groupby_var)
plt.show()

```

