%matplotlib inline

import numpy as np

import pandas as pd

import matplotlib.pyplot as plt

mtcars = pd.read\_csv("mtcars.csv")

mtcars = mtcars.rename(columns={'Unnamed: 0': 'model'})

mtcars.index = mtcars.model

del mtcars["model"]

mtcars.head()

mtcars.mean()

mtcars.median()

mtcars.mode()

max(mtcars["mpg"]) - min(mtcars["mpg"]) #Range of mpg

five\_num = [mtcars["mpg"].quantile(0),

mtcars["mpg"].quantile(0.25),

mtcars["mpg"].quantile(0.50),

mtcars["mpg"].quantile(0.75),

mtcars["mpg"].quantile(1)]

five\_num

mtcars["mpg"].describe()

mtcars["mpg"].quantile(0.75) - mtcars["mpg"].quantile(0.25) #Interquartile (IQR) range

mtcars.boxplot(column="mpg",

return\_type='axes',

figsize=(8,8))

plt.text(x=0.74, y=22.25, s="3rd Quartile")

plt.text(x=0.8, y=18.75, s="Median")

plt.text(x=0.75, y=15.5, s="1st Quartile")

plt.text(x=0.9, y=10, s="Min")

plt.text(x=0.9, y=33.5, s="Max")

plt.text(x=0.7, y=19.5, s="IQR", rotation=90, size=25);

mtcars["mpg"].var() #variance

mtcars["mpg"].std() #standard deviation

from numpy import absolute

A = 20

sum = 0 # Initialize sum to 0

Absolute deviation calculation

for i in range(len(mtcars)):

av = absolute(mtcars["mpg"][i] - A)

# Absolute value of the differences of each data point and A

# Summing all those absolute values

sum = sum + av

# finding the absolute deviation

print(sum / len(mtcars))