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In [14]: import matplotlib.pyplot as plt
import pandas as pd
import seaborn as sns
from pandas.plotting import register_matplotlib_converters
register_matplotlib_converters()

# Import data (Make sure to parse dates. Consider setting index column to 'date'.)
df = pd.read_csv("C:/Users/kbabu/Downloads/fcc-forum-pageviews.csv", index_col="date", parse_dates=True)
# Clean data

df = df.loc[(df['value'] >= df['value'].quantile(0.025)) & (df['value'] <= df['value'].quantile(0.975))]

def draw_line_plot():

    # Draw line plot
    fig, ax = plt.subplots(figsize=(32, 10), dpi=100)

    ax.set_title("Daily freeCodeCamp Forum Page Views 5/2016-12/2019")
    ax.set_xlabel("Date")
    ax.set_ylabel("Page Views")
    sns.lineplot(data=df, legend=False, palette=['r'])

def draw_bar_plot():
    # Copy and modify data for monthly bar plot
    df_bar = df.copy()
    df_bar['year'] = df_bar.index.year
    df_bar['month'] = df_bar.index.month

    df_bar = df_bar.groupby(['year', 'month'])['value'].mean()

    df_bar = df_bar.unstack()
    df_bar.columns = ['January', 'February', 'March', 'April', 'May', 'June', 'July', 'August', 'September', 'October', 'November', 'December']

    # Draw bar plot
    fig = df_bar.plot(kind = 'bar', figsize = (15,10)).figure

    plt.xlabel('Years', fontsize = 15)
    plt.ylabel('Average Page Views', fontsize = 15)
    plt.legend(loc = 'upper left', title = 'Months', fontsize = 13)

def draw_box_plot():
    # Prepare data for box plots (this part is done!)
    df_box = df.copy()
    df_box.reset_index(inplace=True)
    df_box['year'] = [d.year for d in df_box.date]
    df_box['month'] = [d.strftime('%b') for d in df_box.date]

    # Draw box plots (using Seaborn)
    fig, (ax1, ax2) = plt.subplots(1, 2, figsize = (16, 8))
    sns.boxplot(data = df_box, ax = ax1, x = "year", y = "value")
    ax1.set_title("Year-wise Box Plot (Trend)")
    ax1.set_xlabel("Year")
    ax1.set_ylabel("Page Views")

    sns.boxplot(data = df_box, ax = ax2, x = "month", y = "value")
    ax2.set_title("Month-wise Box Plot (Seasonality)")
    ax2.set_xlabel("Month")
    ax2.set_ylabel("Page Views")

draw_line_plot()
draw_bar_plot()
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