* Using NumPy and pandas create a data frame called “dataset” that contains the following columns:
* ‘Date’ which contains 50 random dates between '2020-01-01' to '2020-03-10'.

dates = np.random.randint(pd.Timestamp('2022-01-01').value, pd.Timestamp('2023-07-10').value,50)

random\_dates = [pd.to\_datetime((i/10\*\*9)/(60\*60)/24, unit='D').strftime('%Y-%m-%d')  for i in dates]

random\_dates

* ‘Item’ which contains 50 random alphabets between a to z use random.choices()
* ‘Quantity which contains 50 random numbers between 1 to 10 (use np.random.randint()
* ‘price’ contains 50 random numbers between 1 to 100 (use np.random.randint()
* Show the head of the dataset after composition.
* Apply max(), min(0, sum(), mean(), and std() .
* Show the results of applying these functions.
* Apply box blot to ‘Price’ and ‘Quantity’ columns

The program shows some results like the following:

Head of the dataset:



Dataset statistics:



Box plot:



import numpy as np

import pandas as pd

import random

import matplotlib.pyplot as plt

np.random.seed(0)

random.seed(0)

dates = np.random.randint(pd.Timestamp('2020-01-01').value, pd.Timestamp('2020-03-10').value, 50)

random\_dates = [pd.to\_datetime((i/10\*\*9)/(60\*60)/24, unit='D').strftime('%Y-%m-%d') for i in dates]

items = random.choices('abcdefghijklmnopqrstuvwxyz', k=50)

quantity = np.random.randint(1, 11, 50)

price = np.random.randint(1, 101, 50)

data = {'Date': random\_dates, 'Item': items, 'Quantity': quantity, 'Price': price}

dataset = pd.DataFrame(data)

print("Head of the dataset:")

print(dataset.head())

print("\nMax values:")

print(dataset.max())

print("\nMin values:")

print(dataset.min())

print("\nSum:")

print(dataset.sum())

print("\nMean:")

print(dataset.mean())

print("\nStandard Deviation:")

print(dataset.std())

plt.figure(figsize=(8, 6))

dataset[['Price', 'Quantity']].boxplot()

plt.title("Box Plot for Price and Quantity")

plt.show()



