INSTALLINATION

Matplotlib

Graphical user interface, application, Word

Description automatically generated

Pandas

Graphical user interface, text, application, email

Description automatically generated

Scikit-learn

Graphical user interface, text, application

Description automatically generated

NumPy

Graphical user interface, text, application

Description automatically generated

Jupyter Notebook

Graphical user interface, application

Description automatically generated

Mean without using numpy

Source code:-

n\_num = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]

n = len(n\_num)

get\_sum = sum(n\_num)

mean = get\_sum / n

print("Mean / Average is: " + str(mean))

Text

Description automatically generated

Median without using numpy

Source code:-

n\_num = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]

n = len(n\_num)

n\_num.sort()

if n % 2 == 0:

median1 = n\_num[n//2]

median2 = n\_num[n//2 - 1]

median = (median1 + median2)/2

else:

median = n\_num[n//2]

print("Median is: " + str(median))

Text

Description automatically generated

Mode without using numpy

Source code:-

from collections import Counter

n\_num = [1, 2, 3, 4, 5, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]

n = len(n\_num)

data = Counter(n\_num)

get\_mode = dict(data)

mode = [k for k, v in get\_mode.items() if v == max(list(data.values()))]

if len(mode) == n:

get\_mode = "No mode found"

else:

get\_mode = "Mode is / are: " + ', '.join(map(str, mode))

print(get\_mode)

Graphical user interface, text

Description automatically generated

Mean using numpy

Source code:-

x = np.arange(20)

print("\nOriginal array:")

print(x)

r1 = np.mean(x)

r2 = np.average(x)

assert np.allclose(r1, r2)

print("\nMean: ", r1)

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Median using NumPy

Source code:-

arr = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 ]

print("arr : ", arr)

print("median of arr : ", np.median(arr))

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Description automatically generated

Mode using numpy

Source code:-

from scipy import stats

array = [1, 2, 3, 4, 5, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]

x = stats.mode(array)

print(x)

Graphical user interface, text, application, email

Description automatically generated

Graphs Using Matplotlib

Source code:-

“by changing the values of x and y axis we can extend the graph”

Import matplotlib.pyplot as plt

x = [1,2,3]

y = [2,4,1]

plt.plot(x, y)

plt.xlabel('x - axis')

plt.ylabel('y - axis')

plt.title('My first graph!')

plt.show()

Graphical user interface

Description automatically generated with medium confidence