assignment-1-task-1

February 2, 2024

[1]:
```
import numpy as np
import pandas as pd

# Creating lists
list1 = [1, 2, 3, 4, 5]
list2 = [6, 7, 8, 9, 10]

# Creating arrays using NumPy
array1 = np.array(list1)
array2 = np.array(list2)

# Identifying types
print("Type of list1:", type(list1))
print("Type of array1:", type(array1))

# Performing mathematical operations
print("Multiplication:", array1 * array2)
print("Division:", array1 / array2)
print("Power of:", array1 ** array2)

# Combining text with NumPy function
print("Addition of Two:", np.add(array1, array2))

# NumPy functions
print("Sine of array1:", np.sin(array1))
print("Logarithm of array2:", np.log(array2))
print("Logarithm base 2 of array1:", np.log2(array1))
print("Exponential of array2:", np.exp(array2))
```

```
Type of list1: <class 'list'>
Type of array1: <class 'numpy.ndarray'>
Multiplication: [ 6 14 24 36 50]
Division: [0.16666667 0.28571429 0.375      0.44444444 0.5       ]
Power of: [      1     128    6561  262144 9765625]
Addition of Two: [ 7  9 11 13 15]
Sine of array1: [ 0.84147098  0.90929743  0.14112001 -0.7568025  -0.95892427]
Logarithm of array2: [1.79175947 1.94591015 2.07944154 2.19722458 2.30258509]
Logarithm base 2 of array1: [0.         1.         1.5849625  2.
```

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2.32192809]
Exponential of array2: [  403.42879349  1096.63315843  2980.95798704
8103.08392758
 22026.46579481]
```