Practical 1

21BCM074

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Q Basics of Python and Numpy/ R /Matlab

Ans

 Python is a widely used general-purpose, high level programming language. It was created by Guido van Rossum in 1991 and further developed by the Python Software Foundation. It was designed with an emphasis on code readability, and its syntax allows programmers to express their concepts in fewer lines of code.

Python is a programming language that lets you work quickly and integrate systems more efficiently.

There are two major Python versions: **Python 2 and Python 3**. Both are quite different.

Code:

print("Enter First Number: ")

numOne = int(input())

print("Enter Second Number: ")

numTwo = int(input())

res = numOne+numTwo

print("\nAddition Result = ", res)

res = numOne-numTwo

print("Subtraction Result = ", res)

res = numOne\*numTwo

print("Multiplication Result = ", res)

res = numOne/numTwo

print("Division Result = ", res)

**Numpy**is a general-purpose array-processing package. It provides a high-performance multidimensional array object, and tools for working with these arrays. It is the fundamental package for scientific computing with Python.  
Besides its obvious scientific uses, Numpy can also be used as an efficient multi-dimensional container of generic data.

Code:

# Python program for

# Creation of Arrays

**import** numpy as np

# Creating a rank 1 Array

arr **=** np.array([1, 2, 3])

print("Array with Rank 1: \n",arr)

# Creating a rank 2 Array

arr **=** np.array([[1, 2, 3],

                [4, 5, 6]])

print("Array with Rank 2: \n", arr)

# Creating an array from tuple

arr **=** np.array((1, 3, 2))

print("\nArray created using "

      "passed tuple:\n", arr)