CARNEGIE MELLON UNIVERSITY

18-785 Data, Inference, and Applied Machine Learning

DIAML_ASSIGNMENT0

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Program: MSIT

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I, the undersigned, have read the entire contents of the syllabus for course 18-785 (Data Inference and Applied Machine Learning) and agree with the terms and conditions of participating in this course, including adherence to CMU's AIV policy.

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DIAML ASSIGNMENT0 REPORT DOCUMANTAION

Report Demonstrations:

Libraries used:

Math library

pi: It is a mathematical constant that is the ratio of a circle's circumference to its diameter, approximately equal to 3.14159. pi is denoted as π mathematically. [1]

e: Euler's Number 'e' is a numerical constant used in mathematical calculations. The value of e is 2.71828182845 approximately. [2]

phi: The golden ratio, also known as the golden number, golden proportion, or the divine proportion, is a ratio between two numbers that equals approximately 1.618. two quantities are in the golden ratio if their ratio is the same as the ratio of their sum to the larger of the two quantities.[3]

Work done summary:

I successfully completed the assignment tasks, and this included printing the provided string "Hello Data Inference and Applied Machine Learning," defining three mathematical constants (pi, Euler's constant, and the Golden Ratio), initializing their values, calculating their sum, and printing the result. I also made sure to comment on my line-by-line codes for a clear understanding of whoever will be reading them in the future.

Process description

Q1: Starting with printing out the given string; I used **print()** function, and print() function prints the specified message to the screen, or other standard output device[4]. The result of this program is as follows:

```
Hello Data Inference and Applied Machine Learning
```

Q2: For the second question; I declared three mathematical constants using python libraries named math library and mathematical expression formular on phi constant.

pi=math.pi

e=math.e

phi= (1+math.sqrt(5))/2

I printed out the value of line by line, and then after declaration and printing the value of each the system will calculate the sum of all constants by adding them together.

Value of pi:

```
3.141592653589793
```

Value of e:

```
2.718281828459045
```

Value of phi:

```
1.618033988749895
```

Formula:

Sum= pi+e+phi and prints out the sum of all constants using print() function

print ("The sum of the three famous mathematical constants is = ", sum)

Result:

```
The sum of the three famous mathematical constants is =  7.477908470798733
```

To conclude, I learnt about anaconda package manager and jupyter notebook editor**,** and I also learnt how to use python libraries through this assignment.

[1] “Value of Pi in Maths - Definition, Forms & Solved Examples,” *BYJUS*. https://byjus.com/maths/value-of-pi/ (accessed Aug. 31, 2023).
[2] “Value of e - Euler’s Number - Introduction, Properties & Values,” *VEDANTU*. https://www.vedantu.com/maths/value-of-e (accessed Aug. 31, 2023).
[3] “Golden Ratio - Definition, Formula and Derivation,” *BYJUS*. https://byjus.com/maths/golden-ratio/ (accessed Aug. 31, 2023).
[4] “Python print() Function.” https://www.w3schools.com/python/ref_func_print.asp (accessed Aug. 31, 2023).