

AIAC #LAB-1

Python function that takes three inputs and returns the largest value (Task #2)

PROMPT:

Generate a python code that implements a function which takes three numbers as input as a list and finds largest element in the list

Code:

```
1 def find_largest(numbers):
2     if len(numbers) != 3:
3         raise ValueError("Input list must contain exactly three numbers.")
4     return max(numbers)
5
6 # Read three numbers from the user
7 nums = []
8 for i in range(3):
9     num = float(input(f"Enter number {i+1}: "))
10    nums.append(num)
11
12 print("The largest number is:", find_largest(nums))
13
```

Output:

```
PS C:\Users\thoop\Downloads\birthdayproject> & C:\Users\thoop\AppData\Local\Programs\Python\Python311\python.exe C:\Users\thoop\Downloads\birthdayproject\aiac.py
Enter number 1: 3
Enter number 2: 6
Enter number 3: 7
The largest number is: 7.0
PS C:\Users\thoop\Downloads\birthdayproject>
```

Python function for factorial using recursion (Task #3)

Prompt:

Give a python code using Recursion to find factorial of a given number collect the number from the user

Code:

```
1  # Recursive function to find factorial of a given number
2  def factorial(n):
3      if n < 0:
4          raise ValueError("Factorial is not defined for negative numbers.")
5      if n == 0 or n == 1:
6          return 1
7      else:
8          return n * factorial(n - 1)
9
10 # Collect number from the user
11 num = int(input("Enter a number to find its factorial: "))
12 print(f"Factorial of {num} is: {factorial(num)}")
```

Output:

```
Enter a number to find its factorial: 5
Factorial of 5 is: 120
```

Python class definition with an initializer and a display method (Task #4)

Prompt:

Generate a python code for class definition with an initializer and a display method

Code:

```
1  # Example class with initializer and display method
2  class Person:
3      def __init__(self, name, age):
4          self.name = name
5          self.age = age
6
7      def display(self):
8          print(f"Name: {self.name}, Age: {self.age}")
9
10 # Example usage:
11 p = Person("Alice", 30)
12 p.display()
```

Output:

```
./Users/choop/Downloads/011 chdayp
Name: Alice, Age: 30
```

Function that returns word frequency using a dictionary (Task #5)

Prompt:

Give a python code to find the frequency of a word using dictionary

Code:

```
1  # Function to return word frequency using a dictionary
2  def get_word_frequencies(text):
3      words = text.split()
4      freq = {}
5      for word in words:
6          freq[word] = freq.get(word, 0) + 1
7      return freq
8
9  # Read input from the user
10 user_text = input("Enter a sentence: ")
11 print(get_word_frequencies(user_text))
```

Output:

```
Enter a sentence: hello this is harichandana. iam in sr university.iam from batch2 .now iam in AIAC lab
{'hello': 1, 'this': 1, 'is': 1, 'harichandana.': 1, 'iam': 2, 'in': 2, 'sr': 1, 'university.iam': 1, 'from': 1, 'batch2': 1, '.now': 1, 'AIAC': 1, 'lab': 1}
```