Python Programming

Problem 1:

You are tasked with creating a Python module to solve the following problem:
Write a program that takes a list of integers from the user and performs the following operations using functions from the module:

1. **Remove duplicates** from the list and return the unique values.
2. **Find the sum of all prime numbers** in the list.
3. **Find the sum of all even numbers** in the list.
4. **Find the maximum value** between sum of prime and sum of even numbers.

Instructions:

1. *Create a Python module named list_operations.py that includes the following functions:*
    - ***is_prime(num):*** *Checks if a number is prime.*
    - ***evenSum(num):*** *Check if a number is even.*
    - ***remove_duplicates(lst):*** *Removes duplicate values from the list.*
    - ***find_max(lst****): Finds and returns the maximum value in the list.*
2. *In another file, import the module and implement the above problem using these functions.*

Sample input:

```
Enter numbers separated by space: 5 8 3 3 11 17 8 10
```

Sample Output:

```
List after removing duplicates: [5, 8, 3, 11, 17, 10]
Sum of prime numbers: 36
Sum of even numbers:18
Maximum value from the list: 36
```

Problem 2:

Write a Python program that uses functions to solve the following problem:

1. Create a function get_factors(num) that returns a list of all factors of a given number.

2. Create a function is_perfect(num) that checks if a number is a **perfect number**. A number is perfect if the sum of its proper divisors (excluding itself) equals the number.
3. In the main program, take a number as input from the user, display its factors, and verify if it is a perfect number using the above functions.

Sample Input:

```
Enter a number: 28
```

Sample Output:

```
Factors of 28: [1, 2, 4, 7, 14, 28]
Is 28 a perfect number?: Yes
```

Homework:

Write a python code that find all perfect number from a given list (find the definition of perfect number from question 2).