Date - 20 May 2024 Python

1. Write a function named multiply that takes two parameters a and b and returns their product.
2. Define a method named reverse\_string within a class StringManipulator that takes a string as input and returns the reverse of that string.
3. Create a generator function named even\_numbers that yields even numbers up to a specified limit.
4. Write a Python decorator named log\_time that prints the execution time of a function each time it is called.
5. Implement a function named count\_vowels that takes a string as input and returns the count of vowels (a, e, i, o, u) in that string.
6. Define a class Calculator with a method power that takes two parameters base and exponent and returns the result of raising base to the power of exponent.
7. Create a generator function named fibonacci\_sequence that yields the Fibonacci sequence up to a specified number of terms.
8. Write a Python decorator named memoize that caches the results of a function to improve performance by avoiding redundant computations.
9. Implement a function named unique\_elements that takes a list as input and returns a new list containing only the unique elements of the input list.
10. Define a class EmailSender with a method send\_email that takes to, subject, and body as parameters and simulates sending an email.