Lab Assignment- Strings

1. Write a Python program to find the length of a given string.
Input: 'Hello World'
Output: 11

2. Write a Python program to convert a string to uppercase.
Input: 'python'
Output: 'PYTHON'

3. Write a Python program to count the number of vowels in a string.
Input: 'Education'
Output: 5

4. Write a Python program to reverse a string using slicing.
Input: 'OpenAI'
Output: 'IAnepO'

5. Write a Python program to check whether a string is palindrome or not.
Input: 'madam'
Output: Palindrome

6. Write a Python program to count the frequency of each character in a string.
Input: 'hello'
Output: {'h':1, 'e':1, 'l':2, 'o':1}

7. Write a Python program to replace all spaces in a string with hyphens.
Input: 'Python Programming'
Output: 'Python-Programming'

8. Write a Python program to check if a substring is present in a given string.
Input: 'machinelearning', Substring: 'learn'
Output: True

9. Write a Python program to concatenate two strings and display the result.
Input: 'Data' and 'Science'
Output: 'DataScience'

10. Write a Python program to find the first and last character of a string.
Input: 'Computer'
Output: First: 'C', Last: 'r'

11. Write a Python program to count the occurrences of each word in a string.
Input: 'AI and ML and AI'
Output: {'AI':2, 'and':1, 'ML':1}

12. Write a Python program to remove all punctuation from a string.
Input: 'Hello!!! How are you??'
Output: 'Hello How are you'

13. Write a Python program to find the longest word in a sentence.
Input: 'Deep learning improves computer vision'
Output: 'learning'

14. Write a Python program to check if two strings are anagrams.
Input: 'listen', 'silent'
Output: True

15. Write a Python program to remove duplicate characters from a string.
Input: 'programming'
Output: 'progamin'

16. Write a Python program to sort words in a string alphabetically.
Input: 'Python is powerful and easy'
Output: 'Python and easy is powerful'

17. Write a Python program to find all substrings of a given string.
Input: 'abc'
Output: ['a', 'b', 'c', 'ab', 'bc', 'abc']

18. Write a Python program to count the number of digits and letters in a string.
Input: 'AI2025'
Output: Letters: 2, Digits: 4
19. Write a Python program to check if a string contains only digits.
Input: '12345'
Output: True

20. Write a Python program to replace vowels in a string with '*'.
Input: 'Education'
Output: '*d*c*t**n'