

1. Create a string variable named `my_string` and assign it the value "qwertyuiopasdfghjkl asdfghjkzxcvbnm".
2. Print the third character of `my_string` using indexing.
3. Print the last character of `my_string` using indexing.
4. Print the first five characters of `my_string` using slicing.
5. Print the last five characters of `my_string` using slicing.
6. Print every other character of `my_string` using slicing.
7. Print `my_string` in reverse using slicing.
8. Print the first two characters of `my_string` using slicing.
9. Print the characters of `my_string` from index 7 to index 12 (inclusive) using slicing.
10. Print the last three characters of `my_string` using slicing.
11. Print the characters of `my_string` in reverse order using slicing.
12. Print every third character of `my_string` starting from the second character using slicing.
13. Create a new string variable named `new_string` and assign it the value "learning is fun". Concatenate `my_string` and `new_string` using the `+` operator and print the resulting string.
14. Create a string variable named `my_string` and assign it the value "Python is easy to learn!".
  - a. Print the length of `my_string`.
  - b. Convert `my_string` to uppercase and print it.
  - c. Replace the word "easy" in `my_string` with the word "powerful" and print the resulting string.
15. Create a string variable named `email` and assign it the value "jane.doe@example.com".
  - a. Print the username (i.e., "jane.doe") by slicing the string.
  - b. Print the domain (i.e., "example.com") by slicing the string.
  - c. Replace the domain with "mycompany.com" and print the resulting email address.
16. Create a string variable named `my_string` and assign it the value "Python is fun".
  - a. Check if the word "is" is in `my_string` and print the result.
  - b. Check if the word "Java" is not in `my_string` and print the result.

- c. Split my\_string into a list of words and print the result.
17. Create a string variable named my\_string and assign it the value "Programming is fun!".
- Use string interpolation to replace "fun" with "awesome" and print the resulting string.
  - Use the split method to split my\_string into a list of words and print the result.
  - Use the join method to concatenate the list of words into a single string using a space as a separator and print the resulting string.
18. Create a string variable named my\_string and assign it the value "This is a test sentence.".
- Use the count method to count the number of occurrences of the letter "e" in my\_string and print the result.
  - Use the find method to find the index of the first occurrence of the word "test" in my\_string and print the result.
  - Use the replace method to replace the word "test" with the word "example" in my\_string and print the resulting string.
19. Create a string variable named my\_string and assign it the value "python".
- Use slicing to print the first three characters of my\_string in reverse order.
  - Use slicing to print the last two characters of my\_string in reverse order.
  - Use the join method to add a hyphen between each character of my\_string and print the resulting string.
20. Create a string variable named my\_string and assign it the value "Python is a popular programming language".
- a. Use the title method to capitalize the first letter of each word in my\_string and print the resulting string.
  - b. Use the split method to split my\_string into a list of words and print the result.
  - c. Use the replace method to replace the word "Python" with "Java" in my\_string and print the resulting string.
21. Create a string variable named my\_string and assign it the value "Hello, World!".

- a. Use the lower method to convert my\_string to lowercase and print the resulting string.
  - b. Use the upper method to convert my\_string to uppercase and print the resulting string.
  - c. Use slicing to print the string "World" from my\_string.
22. Create a string variable named my\_string and assign it the value "racecar".
- a. Use slicing to print the string "race" from my\_string.
  - b. Use slicing to print the string "cec" from my\_string in reverse order.
  - c. Check if my\_string is a palindrome (i.e., reads the same forwards and backwards) and print the result.
23. Create a list named fruits with the values ["apple", "banana", "cherry", "mango", "orange"].
- a. Print the first fruit.
  - b. Print the last two fruits using slicing.
  - c. Add "grape" to the list and print it.
24. Create a list of numbers from 1 to 10.
- a. Print only the even numbers using slicing.
  - b. Reverse the list using slicing.
  - c. Print every third element of the list.
25. Create a list named colors with the values ["red", "blue", "green"].
- a. Insert "yellow" at the second position.
  - b. Remove "blue" from the list.
  - c. Print the final list.
26. Create a list of numbers [10, 20, 30, 40, 50].
- a. Replace the second element with 25.
  - b. Print the sum of all elements in the list.
  - c. Print the maximum and minimum values.
27. Create a list of 5 integers.
- a. Sort the list in ascending order.
  - b. Sort the list in descending order.
  - c. Print the length of the list.
28. Create a tuple named my\_tuple with values (1, 2, 3, 4, 5).
- a. Print the third element.
  - b. Print the first three elements using slicing.
  - c. Check if 4 is in my\_tuple.
28. Create a tuple named my\_tuple with values (1, 2, 3, 4, 5).
- a. Print the third element.
  - b. Print the first three elements using slicing.
  - c. Check if 4 is in my\_tuple.
28. Create a tuple named my\_tuple with values (1, 2, 3, 4, 5).
- a. Print the third element.
  - b. Print the first three elements using slicing.

- c. Check if 4 is in `my_tuple`.
29. Create a tuple `months` with the first six months of the year.
- Print the last month.
  - Print the first four months.
  - Find the index of "March".
30. Create a tuple with duplicate values `(10, 20, 10, 30, 10, 40)`.
- Count how many times 10 appears.
  - Find the index of the first occurrence of 30.
31. Convert a list `[1, 2, 3, 4]` into a tuple and print it.
- Convert the tuple back into a list and print it.
32. Create a tuple `student = ("Alice", 21, "Computer Science")`.
- Print the name.
  - Print the age.
  - Print the department.

String based:

Create a string "PythonProgramming".

- Print the middle 5 characters.
- Print the string without the first and last characters.

Create a string " Data Science ".

- Remove leading and trailing spaces.
- Print the string length before and after removing spaces.

Create a string "MachineLearning".

- Print the string in all lowercase.
- Print the string in all uppercase.
- Swap the case of all letters.

Create a string "python is powerful".

- Capitalize only the first letter of the string.
- Use `.title()` to capitalize the first letter of each word.

Create a string "datascience123".

- Check if the string is alphanumeric.
- Check if the string contains only digits.
- Check if the string contains only alphabets.

Create a string "hello world".

- Count how many times "o" appears.
- Find the index of the first occurrence of "world".

Create a string "abcd".

- Generate "a-b-c-d" using `.join()`.
- Repeat the string 3 times.

Create a string "python" and check:

- Does it start with "py"?
- Does it end with "on"?

Create a string "Artificial Intelligence".

- Split the string into a list of words.
- Print the longest word.

Create a string "reverse me".

- Reverse the string using slicing.
- Reverse each word individually (output: "esrever em").