

Array String Methods:

Here's an **array of strings** in JavaScript:

```
const fruits = ["Apple", "Banana", "Cherry", "Mango", "Orange", "Grapes"];
```

Assignment Questions:

Basic Level

1. Print the first and last fruit from the fruits array.
 2. Add "Pineapple" to the end of the array.
 3. Remove "Banana" from the array.
 4. Find the length of the fruits array.
 5. Sort the array in alphabetical order.
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- ☐ Print the second and second-last fruit from the fruits array.
 - ☐ Add "Strawberry" to the beginning of the array.
 - ☐ Remove the last element from the array.
 - ☐ Find the index of "Cherry" in the array.
 - ☐ Replace "Mango" with "Kiwi".
 - ☐ Create a copy of the first three elements from the array.
 - ☐ Print the array in reverse order without modifying the original.
 - ☐ Check if the array is empty before performing operations.
 - ☐ Remove the first fruit from the array.
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1. ☐ Use `.includes()` to check if "Pineapple" is in the array.

Intermediate Level

6. Reverse the order of the fruits array.
 7. Check if "Mango" is present in the array.
 8. Convert all fruit names to uppercase and store them in a new array.
 9. Create a new array containing only the fruits that start with the letter "A".
 10. Join all elements into a single string separated by commas.
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- ☐ Concatenate the fruits array with ["Papaya", "Watermelon"].
 - ☐ Write a function that removes a fruit by its name.
 - ☐ Use `.filter()` to create a new array containing fruits with more than **5 letters**.
 - ☐ Find the longest fruit name in the array.
 - ☐ Use `.reduce()` to count the total number of characters in all fruit names.

- ☐ Convert the array into a single string with each fruit separated by " | ".
 - ☐ Write a function to swap the first and last elements of the array.
 - ☐ Use `.some()` to check if any fruit name has more than **8 letters**.
 - ☐ Find the shortest fruit name in the array.
6. ☐ Use `.slice()` to create a new array without the first and last elements.
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Advanced Level

11. Write a function that adds a new fruit only if it doesn't already exist in the array.
12. Write a function that returns a random fruit from the `fruits` array.
13. Remove duplicate fruits from an array (if any exist).
14. Use the `.map()` method to create a new array with the length of each fruit name.
15. Write a function that takes a letter as input and returns all fruits that start with that letter.
16. ☐ Shuffle the elements in the array randomly.
17. ☐ Write a function that returns an array of unique fruits (removing duplicates).
18. ☐ Write a function that returns only the fruits that contain the letter "e".
19. ☐ Implement a function to sort the fruits based on their name length (shortest to longest).
20. ☐ Write a function that finds the most frequently occurring fruit in an array.
21. ☐ Write a function that converts the first letter of each fruit to uppercase (if not already).
22. ☐ Use `.every()` to check if all fruit names have more than **3 letters**.
23. ☐ Reverse each fruit name without reversing the array order (e.g., "Apple" → "elppA").
24. ☐ Write a function that removes fruits with an odd number of letters.
25. ☐ Use `.map()` to create a new array where each fruit is prefixed with "Delicious ".

Assignment 4:

New Array of Strings

```
const animals = [  
  "Lion", "Tiger", "Elephant", "Giraffe", "Monkey", "Zebra",  
  "Kangaroo", "Panda", "Leopard", "Cheetah", "Rhinoceros",  
  "Hippopotamus", "Wolf", "Fox", "Deer", "Rabbit", "Squirrel",  
  "Crocodile", "Alligator", "Ostrich", "Peacock", "Eagle",  
  "Falcon", "Penguin", "Dolphin", "Shark", "Whale", "Octopus",  
  "Jellyfish", "Starfish"  
];
```

Basic Level (1-20)

Accessing and Manipulating Elements

1. Print each animal in the array using a for loop.
 2. Print the first and last animal from the array.
 3. Add "Horse" to the beginning of the array.
 4. Remove the last element from the array.
 5. Find the index of "Kangaroo" and print it.
 6. Replace "Giraffe" with "Camel".
 7. Print only animals that contain more than 6 letters.
 8. Reverse the order of the array and print it.
 9. Print the array in alphabetical order.
 10. Use `.includes()` to check if "Dolphin" exists in the array.
 11. Find and print the longest animal name.
 12. Find and print the shortest animal name.
 13. Print all animals that start with the letter "C".
 14. Count how many animals contain the letter "o".
 15. Create a new array that contains only animals with more than 5 letters.
 16. Print the middle animal(s) of the array.
 17. Find the total number of characters in all animal names.
 18. Use `.join()` to create a string of all animal names separated by commas.
 19. Remove the first and last elements from the array.
 20. Concatenate animals with `["Dog", "Cat", "Parrot"]`.
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Intermediate Level (21-40)

Using Loops and Array Methods

21. Use a for loop to print each animal in uppercase.
 22. Use `.map()` to create a new array where each animal name is capitalized.
 23. Use `.filter()` to get all animals that have exactly **6 letters**.
 24. Use `.reduce()` to find the total number of characters in all animal names.
 25. Write a function that takes a letter as input and returns all animals starting with that letter.
 26. Use `.every()` to check if all animals have at least **3 letters**.
 27. Use `.some()` to check if any animal name contains more than **10 letters**.
 28. Shuffle the array randomly.
 29. Use a for loop to count how many animals have an "e" in their name.
 30. Use `.map()` to create a new array where each animal name ends with "!".
 31. Use `.filter()` to remove animals that have the letter "a".
 32. Print the names of animals where the second letter is "o".
 33. Use `.slice()` to extract only the first 10 animals.
 34. Swap the first and last animals in the array.
 35. Write a function to find the most frequent letter in all animal names.
 36. Count how many animals start with a vowel (A, E, I, O, U).
 37. Print the animal names in reverse order without changing the original array.
 38. Print the index of "Elephant" and "Shark" in the array.
 39. Create an object where each animal is a **key**, and its length is the **value**.
 40. Convert all elements of the array into lowercase.
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Advanced Level (41-60)

Complex Operations

41. Write a function that removes duplicate animal names from an array.
42. Find and print the first three-letter animal (if any exist).
43. Print the animals grouped by the number of letters in their name.
44. Write a function that removes an animal if its name is provided as input.
45. Sort the array based on the length of animal names (shortest to longest).
46. Create an array of animals where each name is spelled backwards.
47. Write a function that finds the longest common prefix in all animal names.
48. Convert the array into an object where the keys are animal names and values are their index.
49. Find and print the animal with the most vowels in its name.
50. Write a function that takes a letter as input and returns **how many animals start** with that letter.
51. Use `.find()` to get the first animal with more than 8 letters.
52. Write a function that returns the top **5 longest** animal names.
53. Print only the animals that contain at least **two vowels**.
54. Create an array where each animal is followed by the number of letters in its name.

55. Find and print animals that have **consecutive repeated letters** (e.g., "Rabbit" has "bb").
 56. Convert the array into a **nested array** of pairs (e.g., [{"Lion", "Tiger"}, {"Elephant", "Giraffe"}, ...]).
 57. Create an array that stores the first **three letters** of each animal name.
 58. Count how many animals contain the letter "p" but do **not** contain "o".
 59. Write a function that capitalizes the second letter of every animal.
 60. Implement a function that generates a random **animal battle** by picking two random animals and displaying them.
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Assignment 6:

1. Write a program in JavaScript to calculate the sum of three numbers with getting input in one line separated by a comma.

Expected Output :

Input three numbers separated by comma : 5,10,15

The sum of three numbers : 30

2. Write a JavaScript program to perform addition, subtraction, multiplication and division of two numbers

Expected Output :

Input any two numbers separated by comma : 10,5

The sum of the given numbers : 15

The difference of the given numbers : 5

The product of the given numbers : 50`

The quotient of the given numbers : 2.000000