JavaScript Array vs Python List Methods

Basic Array/List Methods in JavaScript vs. Python

Operation	JavaScript (Array)	Python (List)
Create an Array/List	let arr = [1, 2, 3];	arr = [1, 2, 3]
Add an item to the end	arr.push(4);	arr.append(4)
Add multiple items	arr.push(5, 6);	arr.extend([5, 6])
Insert an item at an index	arr.splice(2, 0, 7);	arr.insert(2, 7)
Remove an item by value	arr.splice(arr.indexOf(7), 1);	arr.remove(7)
Remove last item	arr.pop();	arr.pop()
Clear all items	arr.length = 0;	arr.clear()
Find index of an item	arr.indexOf(2);	arr.index(2)
Count occurrences of an item	arr.filter(x => x === 2).length;	arr.count(2)
Sort items in ascending order	arr.sort();	arr.sort()
Sort items in descending order	arr.sort((a, b) => b - a);	arr.sort(reverse=True)
Reverse the array	arr.reverse();	arr.reverse()
Copy an array	let copy = [...arr];	copy = arr.copy()
Get the length	arr.length	len(arr)

Advanced Array/List Operations

Operation	JavaScript (Array)	Python (List)
Concatenate two arrays	arr.concat(arr2);	arr + arr2 or arr.extend(arr2)
Slice (get a portion)	arr.slice(1, 3);	arr[1:3]
Check if an item exists	arr.includes(2);	2 in arr
Map (transform each item)	arr.map(x => x * 2);	[x * 2 for x in arr]
Filter (keep certain items)	arr.filter(x => x > 2);	[x for x in arr if x > 2]
Reduce (accumulate values)	arr.reduce((a, b) => a + b, 0);	sum(arr) for summing
Find an item by condition	arr.find(x => x > 2);	next((x for x in arr if x > 2), None)

Find the index by condition	arr.findIndex(x => x > 2);	next((i for i, x in enumerate(arr) if x
Remove by condition	arr = arr.filter(x => x > 2);	arr = [x for x in arr if x > 2]
Flatten a multi-dimensional array	arr.flat();	[item for sublist in arr for item in su

Working with NumPy Arrays (Python) vs. JavaScript Arrays

Operation	JavaScript (Array)	Python (NumPy Array)
Create an array with a range	Array.from({length: 5}, (_, i) => i + 1);	np.arange(1, 6)
Multiply each element by 2	arr.map(x => x * 2);	arr * 2 (if arr is a NumPy array)
Calculate the sum	arr.reduce((a, b) => a + b, 0);	np.sum(arr)
Get the mean	(arr.reduce((a, b) => a + b, 0)) / arr.length;	np.mean(arr)
Transpose a matrix	Not applicable	arr.T for 2D arrays
Matrix multiplication	Not applicable	np.dot(arr1, arr2) for matrix