Challenge 1:

Predicted Output:

1

1 2

1 2 3

Variable	**Value**	
result	**“ ” (initially empty)**	
(i = 1) (j = 1)	**Variable** result += "1" result += "\n"	**Value** "1 " "1 \n1 "
(i = 1) (j = 1) (j = 2)	result += "1" result += "2" result += "\n"	"1 \n " "1 \n1 2 " "1 \n1 2 \n"
(i = 1) (j = 1) (j = 2) (j = 3)	result += "1 " result += "2 " result += "3 " result += "\n"	"1 \n1 2 \n1 " "1 \n1 2 \n1 2 " "1 \n1 2 \n1 2 3 " "1 \n1 2 \n1 2 3 \n"
return	"1 \n1 2 \n1 2 3 \n"	

Output:

1

1 2

1 2 3

Challenge 2:

Predicted Output:

[40, 20, 30, 10]

[40, 20, 30, 10]

Variable	**Value**	
arr (initial)	[10, 20, 30, 40]	
swapFirstLast(arr)	**Variable**	**Value**
	first (arr.shift())	10 → arr = [20, 30, 40]
	last (arr.pop())	40 → arr = [20, 30]
	arr.unshift(last)	arr = [40, 20, 30]
	arr.push(first)	arr = [40, 20, 30, 10]
	return	[40, 20, 30, 10]
console.log(swapFirstLast(numbers));	**[40, 20, 30, 10]**	
console.log(numbers);	**[40, 20, 30, 10] (Original array is modified)**	

Output:

[40, 20, 30, 10]

[40, 20, 30, 10]

Challenge 3:

Predicted Output:

[60, 45, 85, 90]

Variable	**Value**	
grades	[85, 45, 90, 60]	
passing	[] (initially empty)	
filterPassingGrades(grades)	**Variable**	**Value**
Iteration 1	(grade = 85) (85 >= 70) passing.push(85)	 True [85]
Iteration 2	(grade = 45) (45 >= 70) passing.unshift(45)	 False [45, 85]
Iteration 3	(grade = 90) (90 >= 70) passing.push(90)	 True [45 ,85, 90]
Iteration 4	(grade = 60) (60 >= 70) passing.unshift(60)	 False [60, 45, 85, 90]
	return	**[60, 45, 85, 90]**
console.log(filterPassingGrades(scores));	**[60, 45, 85, 90]**	

Output:

[60, 45, 85, 90]

Challenge 4:

Predicted Output:

[

{ id: 1, completed: true },

{ id: 2, completed: false }

]

[

{ id: 1, completed: true },

{ id: 2, completed: false }

]

Variable	**Value**	
tasks	[{ id: 1, completed: false }, { id: 2, completed: true }]	
updateStatus(tasks)	**Variable**	**Value**
Iteration 1	task = { id: 1, completed: false }) task.completed = !task.completed tasks	false false → true [{ id: 1, completed: true }, { id: 2, completed: true }]
Iteration 2	(task = { id: 2, completed: true }) task.completed = !task.completed tasks	true true → false [{ id: 1, completed: true }, { id: 2, completed: false }]
	return	[{ id: 1, completed: true }, { id: 2, completed: false }]
console.log(updateStatus(taskList));	**[{ id: 1, completed: true }, { id: 2, completed: false }]**	
console.log(taskList);	**[{ id: 1, completed: true }, { id: 2, completed: false }]**	

Output:

[

{ id: 1, completed: true },

{ id: 2, completed: false }

]

[

{ id: 1, completed: true },

{ id: 2, completed: false }

]

Challenge 5:

Predicted Output:

Found at index 1

Not found

Variable	**Value**	
arr	[5, 12, 8, 130, 44]	
target	12	
findValue(arr, target)	**Variable**	**Value**
Iteration 1	(i = 0) arr[i] 5 === 12	 5 False
Iteration 2	(i = 1) arr[i] 12 === 12	 12 True
	return	"Found at index 1"
console.log(findValue(data, 12));	**"Found at index 1"**	
arr	[5, 12, 8, 130, 44]	
target	100	
Iteration 1	(i = 0) arr[i] 5 === 100	 5 False
Iteration 2	(i = 0) arr[i] 12 === 100	 12 False
Iteration 3	(i = 0) arr[i] 8 === 100	 8 False
Iteration 4	(i = 0) arr[i] 130 === 100	 130 False
Iteration 5	(i = 0) arr[i] 44 === 100	 44 False
	return	"Not found"
console.log(findValue(data, 100));	**"Not found"**	

Output:

Found at index 1

Not found