On my 17th day at Surfboard Payments internship, I focused on learning the concepts of for loops, nested loops, and deep arrays in JavaScript. These concepts were necessary for me to complete the task assigned by my mentor. The task was to print my name "Avinash" in a specific pattern, where the letters would gradually increase to form the full name and then decrease again, repeating twice. The pattern required a solid understanding of loops and how to manipulate strings dynamically. At first, I thought the task would be simple, but as I started working on it, I realized that implementing the logic was more complex than I had anticipated.

I began by learning about for loops, which are used to execute a block of code multiple times based on a condition. Understanding how to control the number of iterations helped me attempt the first half of the pattern, where the name builds up one letter at a time. However, I soon realized that I also needed to implement a decreasing pattern, which meant I had to reverse the process after reaching the full name. This required me to work with nested loops, where one loop controlled the increasing pattern while another handled the decreasing pattern.

As I experimented with different approaches, I encountered several challenges. One issue was ensuring that the name printed in the correct format without unnecessary spaces or line breaks. Another problem was properly structuring the nested loops so that they executed in the correct sequence. I tried using different loop structures, including traditional for loops and while loops, but I kept running into logical errors that caused the pattern to break at certain points.

Despite facing multiple failures, I learned a lot about JavaScript during this process. I gained a deeper understanding of how loops function, how to manipulate strings effectively, and how to debug errors in my code. My mentor provided some guidance and suggestions, which helped me refine my approach. He emphasized the importance of breaking the problem down into smaller steps and solving each part separately before combining them into the final solution.

One of the key takeaways from this exercise was the importance of nested loops in handling complex patterns. By using a loop within a loop, I was able to control both the increasing and decreasing sequences of the name. I also learned about deep arrays, which are arrays containing multiple levels of nested arrays. Although deep arrays were not directly required for this task, understanding them gave me insight into how data structures work in JavaScript.

Even though I was unable to complete the task by the end of the day, I made significant progress in understanding the concepts needed to solve it. I tried multiple methods, and even though some failed, each attempt taught me something new. This experience reinforced the idea that problem-solving in programming is not always about getting the correct answer immediately but rather about learning from failures and improving through experimentation.

As the day ended, I realized that persistence is key when tackling challenging programming tasks. I plan to continue working on this problem until I successfully implement the correct pattern. This task has given me valuable hands-on experience with loops, string manipulation, and debugging techniques in JavaScript. I am confident that with further practice and refinement, I will be able to complete the task successfully in the coming days.