Analysis and Design of Advanced Algorithms
Group #607
Team 3
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INTEGRATED ACTIVITY - TRANSMISSION ANALYSIS AND MALICIOUS CODE DETECTION

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Working on this section gave me a much deeper understanding of Manacher's Algorithm and why it is considered an optimal solution for palindrome detection. By breaking down each phase of the procedure, I was able to see clearly how it maintains linear time by reusing previously computed information and avoiding redundant checks. This helped me connect the formal description of the algorithm with a more intuitive understanding of how it expands around centers and updates its internal state efficiently.

Translating these concepts into a working implementation strengthened my confidence in handling advanced string algorithms. I had to pay close attention to indices, boundary conditions, and input variations to ensure that the algorithm behaved correctly across different scenarios. Overall, this experience allowed me to bridge theory and practice in a meaningful way and reinforced the importance of understanding not only how an algorithm works, but also why its design makes it so efficient.