**Documentation**

I chose to do my presentation on number theory and applications of mathematics within computer science. My presentation focuses mainly on sequences, series, summations, prime numbers, and congruences. It covers the types of series one may encounter in their computer science studies. Specifically, the presentation goes over some well-known series, such as the series from the Basel problem, the Gaussian Summation method, and series convergence. The presentation also covers the prime number theorem, the prime counting function approximation as well as congruences and modular arithmetic with examples on application.

Link to Presentation Video: https://www.youtube.com/watch?v=bXjUW-In4Jo
Link to GitHub: https://github.com/F23-CS131-YUEN-17240/CS-131-Project-Rajvir-Singh.git

**References**

[1] Rosen K. H. (2019). Discrete mathematics and its applications (Eighth). McGraw-Hill.

[2] YouTube, YouTube, 11 Jan. 2019, https://www.youtube.com/watch?v=MAoI__hbdWM. Accessed 2 Dec. 2023.

[3] Gauss Summation | Let's Talk Science, letstalkscience.ca/educational-resources/backgrounders/gauss-summation. Accessed 3 Dec. 2023.

[4]Britannica, The Editors of Encyclopaedia. "Riemann zeta function". Encyclopedia Britannica, 12 Sep. 2023, https://www.britannica.com/science/Riemann-zeta-function. Accessed 2 December 2023.

[5]"The Origin of the Prime Number Theorem: A Primary Source Project for Number Theory Students." The Origin of the Prime Number Theorem: A Primary Source Project for Number Theory Students | Mathematical Association of America, maa.org/press/periodicals/convergence/the-origin-of-the-prime-number-theorem-a-primary-source-project-for-num ber-theory-students. Accessed 2 Dec. 2023.