In the group assignment, to ensure equal participation from everyone, each member was allocated both code and report-related tasks. My specific responsibilities included implementing the code for the get_variance and compute_alphas_betas methods. Furthermore, I addressed question 3 in the report, which focused on the processes of noise addition and denoising within diffusion model.

During the group assignment, we encountered two significant challenges, both related to memory issues. Initially, when we noticed the presence of memory problems, our first approach was to reduce the batch size. However, this strategy proved ineffective. Subsequently, we continued our investigation and discovered that the first memory issue stemmed from CPU constraints. As a solution, we transitioned the workload from the CPU to the GPU. After completing this step, we encountered another memory issue, prompting us to delve deeper into the code for potential issues. Eventually, through thorough debugging and analysis, we identified the root cause as a problem within the code itself. This experience taught us the importance of careful diagnosis and problem-solving in overcoming technical hurdles during collaborative projects.

Moreover, this assignment not only enhanced my understanding of the diffusion model but also provided valuable insights into my teammates' problem-solving approaches and learning methods. Coordinating everyone's schedules ahead of time for effective communication was crucial in ensuring smooth collaboration. Working closely with my peers in this cooperative environment enabled us to leverage each other's strengths and experiences. Overall, the collaborative nature of this teamwork experience fostered a supportive atmosphere where mutual learning and contribution were key to our collective success in completing the assignment efficiently.