Reflective essay (Nicole)

This group project broadens my horizon in both computer programming and basics of aircraft operation. Before participating in this project, I have completely no idea in neither programming nor path planning of aircraft. In this project, GitHub, which is a social platform for programmers to upload and share their code, was firstly introduced. This social platform allows people to share and learn different language of codes. I also learnt how to upload photos and folders to GitHub by using Gitbash and its code, instead of uploading folders by pressing different button repetitively. This allows me to have a better understanding on how a computer works. In general, we upload folders by pressing buttons in the platform interface but Gitbash allow me to see how data is generated by entering different command and the path that data will go through, from my local drive to GitHub platform. I learnt more about the data generation in the programmer perspective.

Also, VS code and python are introduced in this project. Python is a program language while VS code is used to run the python code and generate it into the path planning map. Since I do not have much knowledge in coding, I thought the code would be very difficult to understand. However, with the explanation adjacent to the code, I can gradually read and understand some of the code. For example, by editing the variables, the data can be run by computer with the input equations and conditions. With the map set by vector i and j, the program will then calculate the lowest cost with respect to the input variable. With the description next to the code, I can gradually understand logic of the code. By following the flow of the logic, I gradually know how the path planning program works and even be able to add some new code to do the task three, adding the minus cost area. For the A\* Path Planning Algorithm, I interpret it as a calculation of Cartesian coordinate system. By plotting the starting node and goal node, it is easy to neighboring node, thus calculate the cost and find the shortest route.

In this project, I also learnt how to cooperate and communicate with my groupmate effectively online. I participated in many group project before but it was the first time to do a project completely online without meeting my groupmate due to the pandemic. Since we are not doing the project together face-by-face, we can only discuss the content online and complete the task by ourselves individually. It is important to have a good time management by ourselves in order to upload different task or information to GitHub on time so that other groupmate can use the information to do the follow up task. We have to strictly follow the schedule so that the progress of other groupmate will not be affected. I also learnt to communicate with my groupmate effectively online. We posed our questions or problem online for advice so that anyone in the group can suggest some solution to solve the problem that the groupmate faced together. Sometimes, it would be difficult solve the problem if we cannot see their screen, so we all tried to explain the process step-by step so that we can distinguish any problem during the input of command. This required a effective communication in order to give accurate instructions and not to make our groupmate upset even if the error occurs repetitively.