

Programming Assignment 3: Image Reduction and Merge with Frame

- **How I develop my assignment solution**

1. The process

Before starting the program, I found this homework is similar to the bitmap image practices. Therefore I studied the practices first, especially the fourth practice. After that, I turned to complete the assignment, I followed the instructions that the teacher gave us on the assignment description. Firstly, I open and read the data of the input colored image. Next is to input the width and the RGB value of the frame. The third step is to output the header and image information of the original image. Instead of writing every line in the main function, I wrote a function to do the printing progress. For the fourth step, I completed the part of reducing the image. Because it's quite the same with the practice, I felt that it's much easier compared to the merged part. For the last part, it came to merging the new image and adding the frame. I separated them into two parts. In the merging part I determined the range of four quadrants first, then copied the reduced image to the correct quadrant.

2. Problems I encountered

The most difficult part I thought in this program was merging the new image. The first problem I faced was the size of the new image, the value didn't match the correct answer. I found that the size of the new image was the new row size times the new height, not the new width times the new height. The second problem was when separating the four quadrants. I spent some time understanding how it works when merging a new image, and finally completed this part.