

1. How I develop my program and the problem I encounter

In the beginning, I started to calculate the width, height and the space between wall, window, door, floor and ceiling. After the calculation and record the data on paper, I started to distinguish different block of the house. Lastly, I divided the house into nine different parts and each of them are the first line of the ceiling, the main part of the ceiling, the last line of the ceiling, the roof, the first ten lines of walls, the 25 lines combination of wall, window and door, the three lines combination of the wall and door, the last two lines of door and finally the two lines of floor.

The biggest problem I face is the application of for loop and if loop. Therefore, I surf online about the explanation of for loop and if loop. And my solution is using for loop as counting coordinate so I can verify the location of different symbol.

2. How I verify the valid design of the house?

First, I use `r_side` to calculate the amount of blanks in the first line. Then, use `r_top` and `r_side` to calculate the value of `r_bottom`. Finally, use other data to calculate `total_width`, `total_height`, `exterior_width`, `exterior_height`, `interior_width` and `interior_height` in order to check if the data in my program are correct.