Report for Assignment 1 (House)

Name: Derek (劉哲瑋)   Number: D1262032

The code generates a representation of a house, including its roof, walls, windows, and door.

First, I defined several design parameters for the house. These parameters include dimensions for the roof, door, window, wall thickness, and spacing between various elements of the house.

The parameters are shown below:

r_top=40, r_side=16, r_bottom=r_top+2*r_side, d_width=20, d_height=28, h_width=r_bottom,　h_house=r_side+46,　exw_house=h_width-4, exh_house=h_house-r_side-2;

Second, I printed out the design parameters of the house and the validation of the house design.

Then, I created the roof through the following points:

- The roof is created using nested loops to print the roof's top, sides, bottom, and center.

- A variable "k" is used to represent the number of spaces needed from the top of the roof to the left side.

- Different characters (# and *) are used to represent the roof's structure.

And I created the first 12 layers of the body of the house through the following points:

- The walls and the ceiling of the house are created using loops and character @.

- A variable "s" is used to represent the number of spaces needed from the wall to the left side.

Windows and door

I first constructed the first twenty-four layers of windows. I divided the six layers of windows into one group and then used a for loop to build part of the door in each group, repeating it four times. Finally, I used for loops to construct the twenty-fifth layer of windows and the door, and then I used for loops to complete the final three layers of door and the floor.