The part I am responsible for is the main game loop when clicking the button “start game” on the menu page made by Xiao. My intention is to create two questions which will test if the user has the knowledge (word meaning and dativ case) from the previous journey. The user will choose the answer by clicking the mouse. The codes will test whether the answer chosen is correct or not by comparing the position of the clicking with a coordination which set previously. As a part tightly linking with the “menu” page created by Xiao, a variable called “achievement” will be created during the game, and the user can check achievement (equals the number of pomegranates) she or he got from participating the game by clicking the “achievement” button on “menu” page. In the following content, I will describe the game loop in detail.
1). First chunk. Setting the basic images and texts.
2). Second chunk. Sub-functions will be used during the game.
3). Third chunk. The main game loop (being divided into four sub-functions).

In the first chunk, I set the screen size which was the same as before, as well as the font where I used arial with size 32.Then, I loaded images and texts which would be shown on the interface during the game. The wav. files were used to present the effect sounds to enhance the interactive feeling.

In the second chunk, I set up the mouse and the exit sub-functions. For the mouse, I wanted to change the normal arrow into a png. picture. Firstly I grasped the position of the mouse by pygame.mouse.get_pos(), and then made the normal one invisible. Putting the mouse to the centre of the picture by adjusting the position of mouse, then "blit" the picture named “mouse_cursor” to the position of mouse. For the exit function, I used the pygame.event.get() to grasp the event that introduced the quit order.

The third chunk, I would call this the main game loop. The main game loop had been divided into three parts with three individual sub-functions: question1(), question2(), and final(). In question1(), the very important thing for me is to create the achievement variable, because it was going to be changed during the loop, I set it after the “global”. Of course, the initial value for it was 0. As the first step of the visual representation, game background and all the texts regarding the first question were "blit". After the mouse being settled, I used pygame.event.get() to get the mouse event again, here I wanted to grasp the clicking movement presented by pygame.MOUSEBUTTONDOWN. When the user click the mouse, an effect sound would be played and the position of the mouse would be caught by x_mouse and y_mouse. Because the correct answer for the question was on the left side of the screen, x_mouse<=320 and y_mouse<=200 were set to be the “correct" area. If the right answer is chosen, we would add 1 into "achievement" and the loop would go to question2(). If the wrong answer which was on the right side of the screen was chosen, the loop continued as well but none would be added into achievement. Except for these two options, the loop stayed on this page till a right or wrong answer was caught. In question2(), the first thing was also to create the achievement variable, and then “blit” the background again but changed the texts to question2. Basically, the left part was the same as that in question1(), but I changed the question2() on line 533 and line 537 into final(). Before going to the final(), a get() function calculated a total achievement which was returned by combining achievement1 from question1() and achievement2 from question2(). By the final() function, I presented the outcome of the game to the user. If get()<2 means the user did not get the two questions above right, then a background and texts of showing being defeated and a matching sound effect will be presented. If get() is not less than 2, which means the user got both of the answers correct, then a background showing two pomegranates and the matching sound will be presented. At this final stage, the mouse motion would transfer the user to the menu which created by Xiao, and the user can check how many pomegranates achieved during the game by clicking the button “achievement”.