Project 1

( Yut Nori Game )

CIS 5

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1. **Introduction**

Yut Nori Game is the traditional Korean New year season game. 2 players can play the game and each one has one board piece to play the game.

1. **Rules of the Game**

2 players can play this game. If user goes first, computer is the next. Their turn is alternative, and they can throw the 4 wood sticks each time on their turns. User’s board piece is (x) and computer’s board piece is (y). They stars at the same position which is (a 0). Arriving at (a 20), which is one column, first is the winning the game for this Project 1. I will use more arrays to make square shapes, which have more columns, rows, and diagonal for next Project 2.

There are 4 wood sticks to determine how much the player’s piece move. It is similar as flipping a coin. Wood sticks’ front side is black, and back side is white.

Example)

* If player gets ( black, white, white, white ) or ( white, black, white, white )

or ( white, white, black, white ) or ( white, white, white, black )

1 black and 3 white → Move 1 step.

* If player gets ( black, black, white, white ) or ( black, white, black, white )

or ( black, white, white, black ) or ( white, black, black, white )

or ( white, black, white, black ) or ( white, white, black, black )

2 black and 2 white → Move 2 steps.

* If player gets ( black, black, black, white ) or ( black, black, white, black )

or ( black, white, black, black ) or ( white, black, black, black )

3 black and 1 white → Move 3 steps.

* If player gets ( black, black, black, black )

4 black and 0 white → Move 4 steps, and player has bonus to throw the sticks again

* If I get ( white, white, white, white )

0 black and 4 white → Move 5 steps, and player has bonus to throw the sticks again

If user and computer are on the same position, second arrived piece could catch the first arrived piece, so second arrived piece will take the place, and the first arrived piece has to go back to the starting point.

1. **Summary of your development**

I chose this game because I had been playing this game with my family since I was 4 years old. Programming this game was difficult than I thought. First of all, I was a struggle to display the board grid. The original Yut Nori Game grid has a lot of columns, rows, and diagonals. It was not working when I made the code without arrays and function. However, when I tried arrays it was working, so I decide to use arrays to make one long column for this project. In addition, I made for loops each one for user and computer to throw 4 wood sticks and display their pieces positions. Unfortunately, it was working only one loop. I wanted alternative turns, but it was working only user’s turns and finished the game, without computer’s turn. I had to figure it out how to make alternative turns. I tried to combine user’s for loop and computer’s for loop into one for loop. Also, I tried to make one big for loop and two for loops inside the one big for loop. They were still not working. Finally one big do while loop and two for loops inside the one big do while loop was working.

1. **Example Inputs with Outputs**
2. **Flowcharts**
3. **Pseudo-code**
4. **Completed Check-off Sheet**