

You will create a **script file** in which the user will use to play the game of Pig against the computer. The script file will use the `input` command. The filename must contain the first four letters of your last name.

Rules of the game

Object: get to 100 points before your opponent.

A player's turn involves rolling a standard six-sided die.

- If anything other than a 1 is rolled, the number rolled is added to the player's subtotal. The player can choose to roll again, or stop their turn and the subtotal is added to the player's total.
- If a 1 is rolled, the player's turn is over and no points are added to the player's total.

A running total of both player's scores are always displayed.

For the user's turn, your script will roll the die and display the number rolled. If the number is 2 through 6, you will ask whether the user wants to roll again and a subtotal is displayed, etc.

For the computer's turn, if the number 2 through 6 is rolled, the computer will have a certain algorithm that will determine whether to roll again. There may be an initial probability p of rolling again or different probabilities under various conditions of total scores and subscores, etc. Also, at each subsequent roll, the computer should be less likely to roll again than before. You can choose your algorithm and value of p and how the probability is reduced with each subsequent roll (as long as it fulfills the requirements). In your final report you will to explain how you chose the algorithm and probability value(s). You do not need to get fancy with figuring out the "optimal strategy" to figure out these numbers (that would be material for another class).

At the beginning of each turn, whether it is the user's turn or the computer's, the screen is cleared and the both players' totals are displayed (and continue to be displayed). For each roll of the die, the roll is displayed, and the current subtotal (if applicable). Thus you see each of the computer's rolls within a turn. The values displayed should be clearly labeled and easy to read (use of `fprintf` will be helpful here).

Your report should include some possible variations and possible improvements to your game.