In this assignment you are going to simulate a game of tossing a single die a number of times. You are going to continue throwing the die as long as the number on the die is greater than or equal to the number of the die in the previous throw. If the number on the die is less then the number of the die in the previous throw, you will stop playing the game and your score will be the total of all die throws. For example, if you observe the following numbers in a game in this order: 2, 5, 5, and 3, you will end the game by scoring 15 points.

Your goal in this assignment is to estimate the expected value of your score by writing an R program and playing the game for 100,000 times. Also plot the histogram of scores for these 100,000 plays. Which distribution does the histogram resemble? What is the average score, i.e., estimated expected value, of these 100,000 plays?

Deliverables:
- Your R code.
- The histogram of the simulation
- A guess for the most similar distribution.
- The average score.

Non credit question: Can you find the expected value analytically?