

Experiment 1

Probability and Statistics using R

1. Ask the user to enter a die face (1-6). Compute the probability of rolling that number in a fair die roll.
2. Ask the user for two numbers (1-6) and compute the probability of rolling both.
3. Let the user input two sets of numbers (e.g., evens & multiples of 3) and compute the union probability.
4. Let the user enter **prior probability, sensitivity, and false positive rate** to compute the probability of having a disease given a positive test.
5. Let the user roll a die n times and compute the probability of each outcome.
6. Ask the user for a **mean and standard deviation**, generate 1000 random normal values, and plot them.
7. Let the user enter the cost of a game and the outcomes to compute expected value.
8. Let the user enter **lambda (average rate per hour)** and k (specific number of events) to compute the probability using a Poisson distribution.