

Simulating Language, week 3 pre-reading questions, part 1

The first questions are on the basics of probabilities.

1. The weather forecaster tells me that tomorrow there is a 25% chance of rain. Assuming they are an accurate forecaster, what is the probability that it will rain tomorrow?
2. What is the probability that it will *not* rain tomorrow?
3. Which of the following is not a probability: -0.1, 1.1, 0.66666, 0.5
4. Consider an unbiased, 'fair' dice*. What is the probability that any roll of the dice will produce a 1? Note: in the notation used in the reading, we would write this probability as something like $p(1 \mid \text{fair-dice})$, i.e. the probability of getting a 1 given that we are rolling the fair dice. (For grammar puritans: consider an unbiased, 'fair' die. For D&Ders: it's a D6.)
5. What is the probability that it will roll a 6?
6. What is the probability that it will roll a 3?
7. What is the probability that it will roll a number higher than 3 (i.e. 4, 5 or 6)?
8. How about if we roll the dice twice? What is the probability that it will produce a 6 then a 6?
9. A 3 then a 5?
10. A number higher than 3 on both rolls?