CHAPTER 4: PROBABILITY DISTRIBUTIONS

4.1 Random Variables

[def] any function that assigns a numerical value to each possible outcome.

probability distribution of a discrete random variable X is a list of possible values of X together with their probabilities

$$f(x) = P[X = x]$$

and it always satisfies:

$$f(x) \geq 0 \text{ and } \sum_{\text{all } x} f(x) = 1$$