Assignment 9-Probability and Random Variable

Annu-EE21RESCH01010

Download latex code from here-

https://github.com/annu100/AI5002−Probability−and−Random−variables/tree/main.tex/ASSIGNMENT_9

Download python code from here-

https://github.com/annu100/AI5002−Probability−and−Random−variables/tree/main.py/ASSIGNMENT_9

I. Problem Statement-Problem 5.24

One card is drawn from a well-shuffled deck of 52 cards. Calculate the probability that the card will (i) be an ace, (ii) not be an ace. Simulation part - Represent the given problem in terms of bernoulli random variables and plot it's associated distributions.

II. SOLUTIONS

let A be the event of getting an ace card. In a dec of 52 cards,4 ace cards are there in total. so,probability for getting an ace card is given by, therefore, P(A) $=\frac{4}{52}=\frac{1}{13}$
Therefore,probability for getting ace card is $\frac{1}{13}$.

let B be the event of not getting an ace card.
P(B) =1-P(A)=1-$\frac{1}{13}=\frac{12}{13}$
Therefore,probability for not getting ace card is $\frac{12}{13}$.

A. Bernaulli random variables simulation

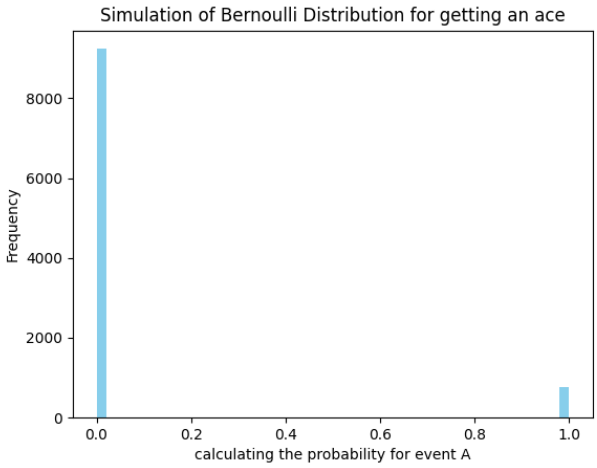

Figure 1: For random variable A

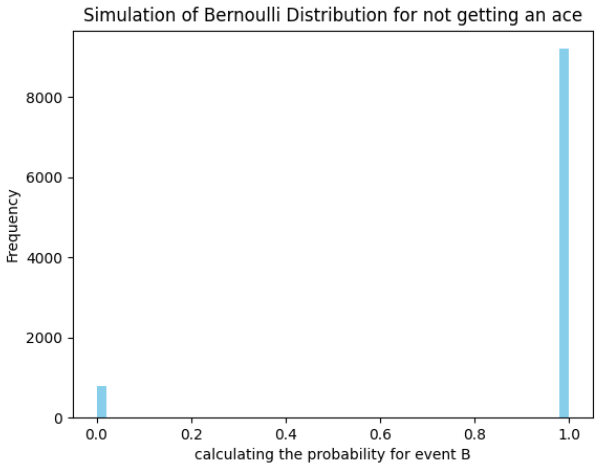

Figure 2: For random variable B