

# Assignment Probability

P PAVAN KUMAR

padmanabhunipavan0@gmail.com

FWC22088

IITH Future Wireless Communication (FWC)

probability

December 23, 2022

## 1 Problems

1. Q:11,16.4,4

### 1.1 Problem1

**Q1:** In a certain lottery 10,000 tickets are sold and ten equal prizes are awarded. What is the probability of not getting a prize if you buy (a) one ticket (b) two tickets (c) 10 tickets ?

**solution:**

**Given,**

Total no of tickets sold =  $S = 10000$

Number of prizes awarded = 10

Number of tickets not awarded =  $P = 9990$

let  $X = \{1, 2, 10\}$

$$P(X) = \frac{{}^PC_x}{S}$$

Thus, the required distribution is

X	1	2	10
P(X)	$\frac{{}^{9990}C_1}{10000}$	$\frac{{}^{9990}C_2}{10000}$	$\frac{{}^{9990}C_{10}}{10000}$