UCS1504 - Artificial Intelligence Lab

Department of CSE, SSN College of Engineering

7. Inference from Full Joint Probability Distribution

01.11.2022

1. The distribution of 2 independent variables Sky (S), Wind(W) are as follows:

S	Sunny	Cloudy	Rain
f(S)	0.3	0.3	0.4

Wind	True	False
g(W)	0.3	0.7

a) Write necessary function to draw/determine Full Joint Probability Distribution Table

Joint Probability Distribution Table

S/W	W=T	W=F	Sum
S=Sunny			
S=Cloudy			
S=Rain			
Sum			

b) Write necessary functions to determine the following inferences from the table:

i. P(S=rain ∧ W)
ii. P(S=rain)
iii. P(W)
iv. P(S=rain|W)

Content to be written in Observation for output verification:

i. **Solve the problem manually at the back side of your AI class Note**

ii. Date

iii. Ex. No

iv. Title

v. Aim v. Data structure used (with justification)

vi. Logic applied or Algorithm (short description)

vii. Sample input and output