**CPT\_S 540 Homework 8**

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Question 1

|  |  |
| --- | --- |
| P(Uniform) | |
| Crimson | gray |
| 0.52 | 0.48 |

|  |  |  |
| --- | --- | --- |
| P(Weather) | | |
| clear | cloudy | Rainy |
| 0.40 | 0.34 | 0.26 |

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|  |  |  |  |
| --- | --- | --- | --- |
| Uniform | Weather | P(Win| Uniform, Weather) | |
| true | False |
| crimson | clear | 0.75 | 0.25 |
| gray | clear | 0.50 | 0.50 |
| crimson | cloudy | 0.53 | 0.47 |
| gray | cloudy | 0.53 | 0.47 |
| crimson | rainy | 0.39 | 0.61 |
| gray | rainy | 0.69 | 0.31 |

Question 2

(a)

(b) CF=CallFriend

U=Uniform

BJ=BuyJersey

W=Weather

T/F=True/False

(c)

=α\*

Question 3

, so choose

so choose

Based on these two, choose, we choose win, so

Given , We choose corresponding max probability:

So we will have:

Question 4

If they are independent, we will have

We pick one example:

They are different, so they are not independent and information is not consistency.