```
1. P(Cloudy) = <0.5, 0.5> *Given
2.P(Sprinkler [cloudy] = <0.1,0.9> *Given
3. P(Cloudy \mid sprinkler \land \neg raining) = \sum_{i} (P(Cl) \cdot P(s|C) \cdot P(\neg r|C))
                               =[0.5.0.1.0.2, 0.5.0.5.0.8]
                               =[0.01,0.2]
                              =<0.048,0.952>
4.P(WetGrass I cloudy ^ sprinkler ^ rain) = \sum_{k} (P(WGIS^r) • P(SIC) • P(rIc) • P(C)
                                       =aP(s|c).P(r|c).P(c)[P(WG|s^r),P(¬WG|s^r)]
                                       -α'[0.99, 0.01]
                                       = <0.99,0.01>
5. P(Cloudy \mid \neg WetGrass) = \sum_{s,r} P(\neg WG|s,r) \cdot P(s|C) \cdot P(r|C) \cdot P(C)
                        = &P(C)[P(~WGIs,r).P(sIc).P(rIc)+P(~WGIs,-r).P(sIc).P(-rIc)+
                                 P(~WG1~s,r).P(~SIC).P(~IC)+P(~WG1~s,~r).P(~SIC).P(~rIC),
                                 P(~WGIs,r).P(sl c).P(rl c)+P(~WGIs,~r).P(sl c).P(~rl c)+
                                 P(~WG|~s,r).P(~s|~c).P(r|~c)+P(~WG|~s,~r).P(~s|~c).P(~r|~c),
                                                                 || Plug & Chug
                          \alpha[0.127, 0.226] = <0.361, 0.639>
```