# Exercise



CLOUDY

| F | T |
|---|---|
| 0.5 | 0.5 |

**Cloudy ?**

**Sprinkler ?**      **Rain ?**

**Wet Grass ?**

| CLOUDY | SPRINKLER | |
|---|---|---|
| | F | T |
| F | 0.5 | 0.5 |
| T | 0.9 | 0.1 |

| CLOUDY | RAIN | |
|---|---|---|
| | F | T |
| F | 0.8 | 0.2 |
| T | 0.2 | 0.8 |

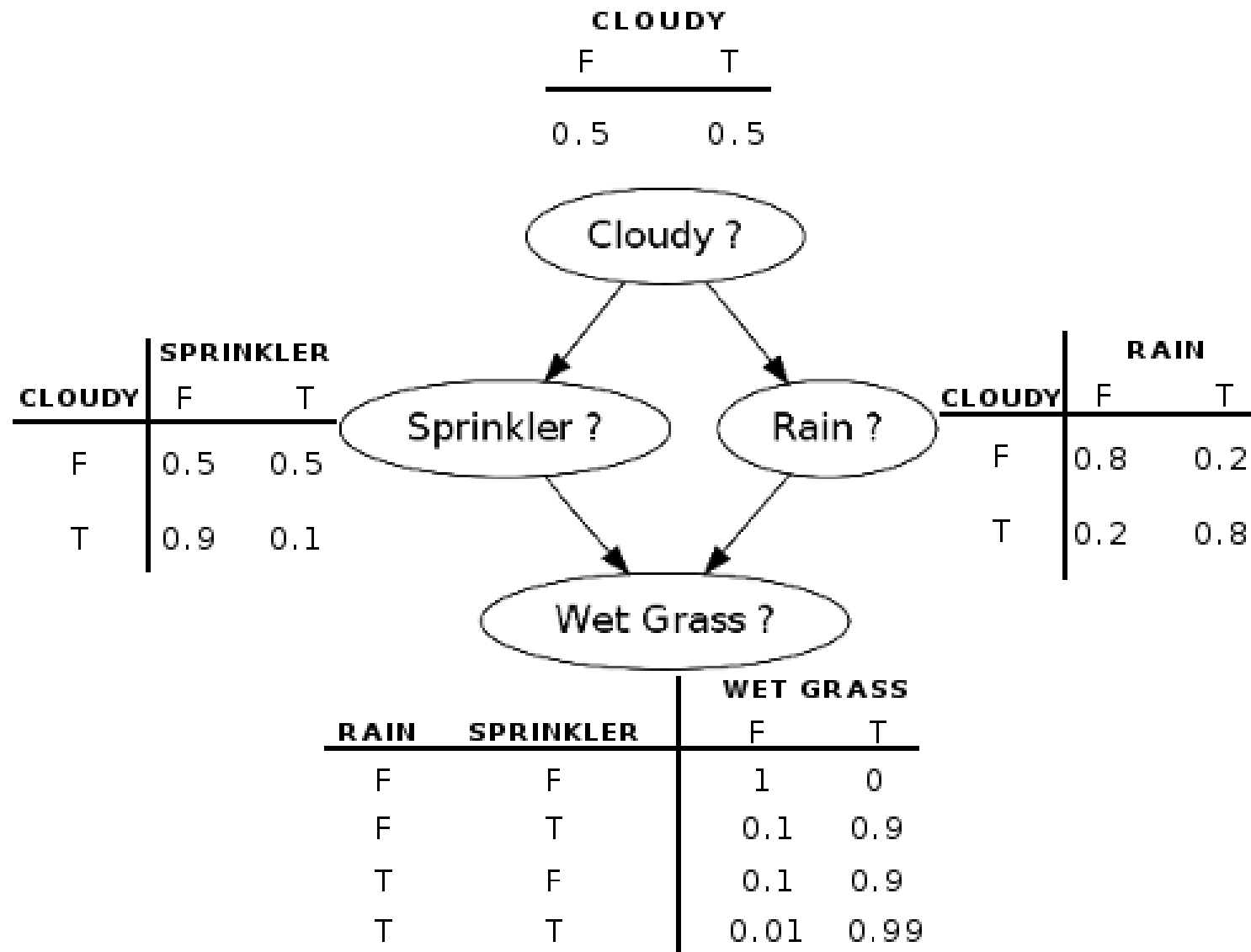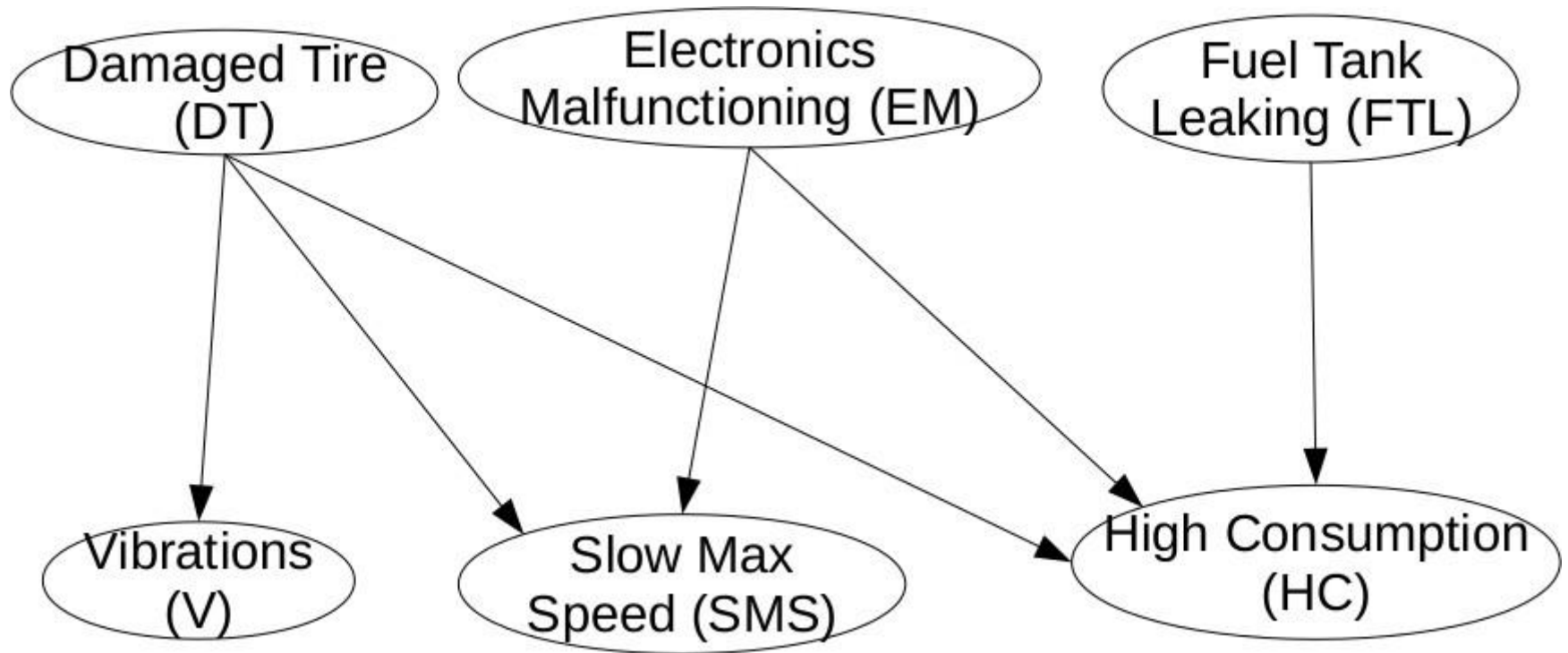| RAIN | SPRINKLER | WET GRASS | |
|---|---|---|---|
| | | F | T |
| F | F | 1 | 0 |
| F | T | 0.1 | 0.9 |
| T | F | 0.1 | 0.9 |
| T | T | 0.01 | 0.99 |

# Homework

Modify the provided Bayesian Network program to calculate the probabilities for Bayes net from the following slide

You are interested in finding out the cause of malfunctioning in your car.

You suspect there is a fault in your car, but you do not know in which component. You noticed that there are vibrations while driving and it is difficult to reach the maximal speed. Your car does not consume more than usual.

| DT | P(DT) |
|----|-------|
| T  | 0.3   |
| F  | 0.7   |

| FTL | P(FTL) |
|-----|--------|
| T   | 0.2    |
| F   | 0.8    |

| EM | P(EM) |
|----|-------|
| T  | 0.3   |
| F  | 0.7   |

| DT | EM | P(SMS=T \| DT,EM) |
|----|----|-------------------|
| T  | T  | 0.05              |
| T  | F  | 0.6               |
| F  | T  | 0.3               |
| F  | F  | 0.7               |

| DT | FTL | EM | P(HC=T \| DT,FTL,EM) |
|----|-----|----|----------------------|
| T  | T   | T  | 0.9                  |
| T  | T   | F  | 0.8                  |
| T  | F   | T  | 0.3                  |
| T  | F   | F  | 0.2                  |
| F  | T   | T  | 0.6                  |
| F  | T   | F  | 0.5                  |
| F  | F   | T  | 0.1                  |
| F  | F   | F  | 0.01                 |

| DT | P(V \| DT) |
|----|------------|
| T  | 0.7        |
| F  | 0.1        |