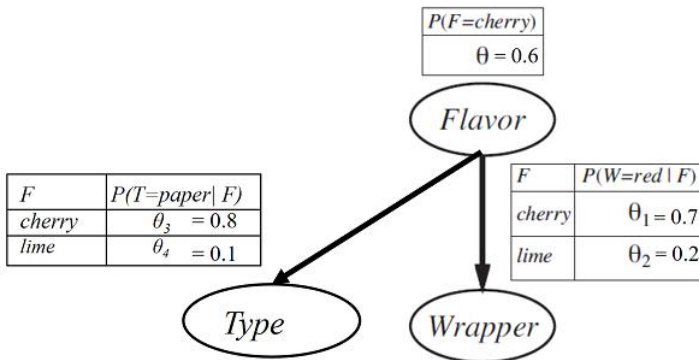- **Assumption:** Attributes $(X_1,\ldots,X_n)$ are conditionally independent of each other, given the class (C)

$$\mathbf{P}(C \mid x_1,\ldots,x_n) = \alpha\, \mathbf{P}(C) \prod_i \mathbf{P}(x_i \mid C)$$

With the observed wrapper being "green" and "plastic", what is the probability of the candy being "cherry" and "lime", respectively?

P(F = cherry | W= green, T= plastic) = ?
P(F = lime | W= green, T= plastic) = ?

P(F=cherry)
$\theta = 0.6$

Flavor

F	P(T=paper| F)
cherry	$\theta_3 = 0.8$
lime	$\theta_4 = 0.1$

F	P(W=red | F)
cherry	$\theta_1 = 0.7$
lime	$\theta_2 = 0.2$

The **wrapper** color may be "red" or "green"

The material **type** may be "paper" or "plastic"

Type   *Wrapper*

Question 1: What is the conditional probability **P(F= cherry | W=green, T=plastic)** ?

NOTE: Please normalize the probabilities first -- to make sure that P(F= cherry | W=green, T=plastic) + P(F=lime | W=green, T=plastic) = 100% -- before giving the answers.

Please retain three digits after the decimal point (for example, 0.987654321 should be rounded to 0.988).

Answer   0.111

Answer range +/-   0.002

Question 2: What is the conditional probability **P(F= lime | W=green, T=plastic)** ?

Answer   0.889

Answer range +/-   0.002