



CS 416

Artificial Intelligence

Lecture 26

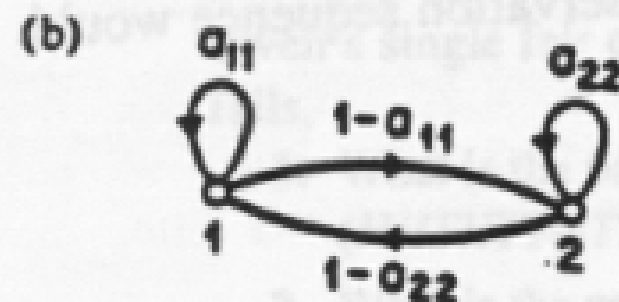
Review // Movies



HMM Example

Point to stress about HMMs

- There need not be a correlation between real states and the HMM states:
 - Example: modeling a coin toss;



2-COINS MODEL
(HIDDEN MARKOV MODEL)

O = H H T T H T H H T T H ...
S = 2 1 1 2 2 2 1 2 2 1 2 ...

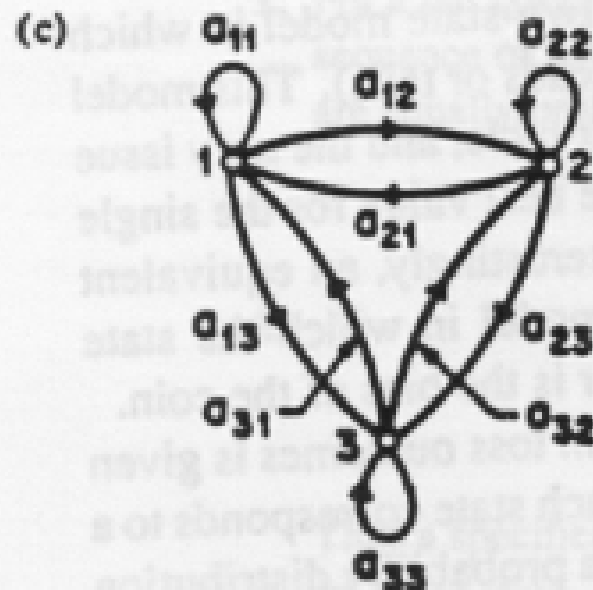
$$P(H) = P_1 \quad P(H) = P_2$$

$$P(T) = 1 - P_1 \quad P(T) = 1 - P_2$$



Three-state HMM

Modeling a coin toss



3-COINS MODEL
(HIDDEN MARKOV MODEL)

$O = H H T T H T H H T T H \dots$
 $S = 3 1 2 3 3 1 1 2 3 1 3 \dots$

	STATE		
	<u>1</u>	<u>2</u>	<u>3</u>
$P(H)$	P_1	P_2	P_3
$P(T)$	$1-P_1$	$1-P_2$	$1-P_3$