Homework2

Due 2/22/2017

HMM Decoding: Viterbi Algorithm

Implement the Viterbi algorithm and run it with the HMM in Fig. 6.3 to compute the most likely weather sequences

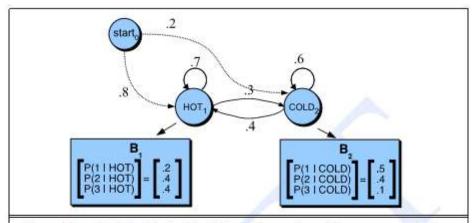


Figure 6.3 A Hidden Markov Model for relating numbers of ice creams eaten by Jason (the observations) to the weather (H or C, the hidden variables). For this example we are not using an end-state, instead allowing both states 1 and 2 to be a final (accepting) state.

- 1. The observation sequences(input sequence) could be any length from 0 to 10.
- 2. You can hard code the HMM in Fig. 6.3 in the program, but do not hard code the observation sequence (input sequence).
- 3. Make the observation sequences as an argument. e.g. Python Viterbi.py sequence.
- 4. Program from scratch, do not use any high-level package that already contains the algorithm.
- 5. Example of input/output:

Observation(input): 331122313 (In commend line: Python Viterbi.py "331122313") Weather(output): HHCCHHHHH