Question for practice:

1. What is the time complexity of inference in a Naive Bayes model? What is the time complexity for learning that model?

2. How much space does an MDP take?
   a) a planing problem requires
   take?

3. Can we solve inference in an HMM when we have only some of the observations? How?

4. What is an HMM useful for? Give 5 applications?

5. What is an MDP application in these areas:
   a) airline plane scheduling
   b) Answering service (phone)
6. Create a ML-based classifier that would help Amazon.com suggest books

7. Can you use sampling to answer SAT problems in prep. logic? How?
   What are the drawbacks?

7. Can you use a SAT solver (OPL#) to sample Z?

Ans: 5b

Class:

![Diagram]

States:

\[
T: <w, \text{sent}, \text{loc}> \Rightarrow -2
\]

\[
R(<w, ..., >) = \begin{cases}
  w = \text{Thanks} & 10 \\
  w = X & -10 \\
  w = \_ & 0
\end{cases}
\]
Ans 4: 1. Stock Market
2. Weather forecast
3. Condition of health of a medical patient
4. Current "freshness" of cache
5. Predict Traffic