CS420 Problem # 1: Creating a Customized Tour Itinerary for Lafayette

Learning/Content Goals

- heuristic search
- knowledge representation
- probabilistic reasoning
- learning

Description

Lafayette College wishes to have a program that will generate a self-guided tour itinerary for visitors. The tour will print out a list of places to visit (in order) and the reasons for visiting them. Things to consider while generating the tour can include:

- interests of the student (scholastic, athletic, cultural, etc.,)
- time available
- time and day of the tour
- interests of the parents (if present)
- areas of general interest (as determined by Admissions)
- classes that are available for students to sit in
- schedules of relevant departments heads and coaches

This type of system is generally in the category of recommender systems.

Outline of Problem Solving Steps

This section is to help you get started. The questions that you should ask (and try to answer) include:

- define the type of AI problem (search, learning, classification, ...) - what are the inputs and outputs? what are the possible AI techniques that you can use? look up the problem in the literature to find out what has been done.
- for each AI technique that you consider: what are the requirements? what do you need to know? is that knowledge available? if yes, what is the format; if no, where can you obtain the information?
- pick two (or three) applicable AI techniques: Instantiate them for the problem. Walk through the algorithm step by step to see how it would work. What heuristics do you need? What information do you need for the heuristics? Do you have the information available? Why did you choose these techniques? Why not choose the other techniques?
- Pick the best technique and then go through it in detail for the problem.
- Evaluate the tool and generated solution(s). How well does it work? How general is it? How brittle/flexible is the tool? How brittle/flexible is the generated solution?