Inference

How to run the project

This is a simple python project including two parts of inference algorithm –exact inference and approximate inference. In the zip file, there are two file directories. One of two is exact inference which conclude a zip file named project 3(enumerate) based on exact inference algorithm. The other is named approximate inference which contains 3 zip files – project 3 reject_sampling, project 3 likehood and project 3 gibbs. For all the zip files, there are two same-named python document – **test** and **beyesi**. Besides there are a example directory which provides needed xml data. The test file is the entrance for to run the program and there is also some program functions. The beyesi file is designed to create the whole bayes net.

1. As requirement, you can just input query and condition in terminal view. Then the algorithm will automate print the result. In terminal view, you have to input standard format data like "python test.py aima-alarm.xml B J True M True". The space in date is used to make program correctly recognize your intend. And if you wrongly input date it wont work.
2. If you want to parser other xml files, you can move the file into example directory and correctly input document name in terminal view.

How to meet requirements

In the project, the goal is to get probability of query given special situation. In this case, every time after you input the query and condition in terminal view, the terminal will return the result. After test by hand, all the possible query have been considered and get right answer. For exact inference, every time the probability wont change with same input. For approximate inference, the result is consistent with no more than 1% differences.

Notes

If you want to know how to design the algorithm and the idea of function, you can check these in comments

I hope this doc will help you use the algorithm.