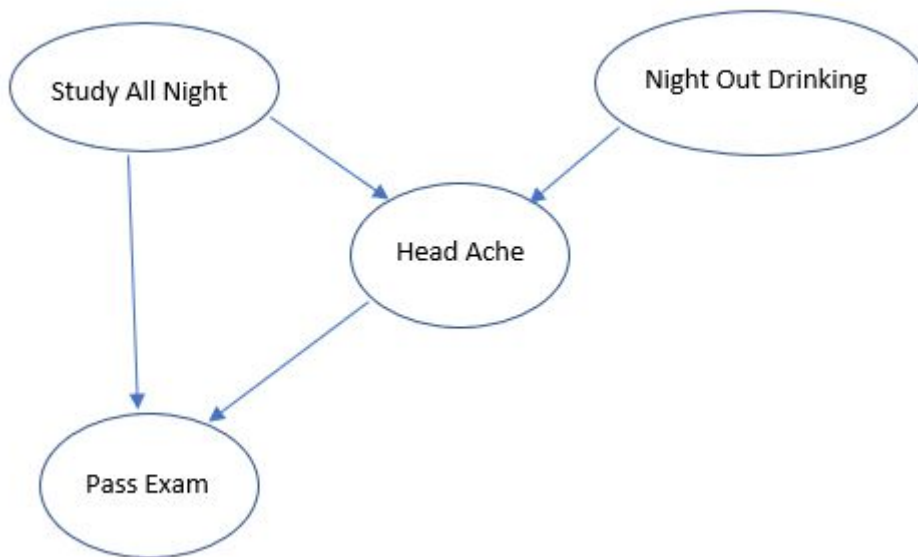Our network example is based on a student final exams period, he or she will party, study, drink and because of that actions we want to know what are the chances of the person to pass the final exams.

Night Out Drinking	
T	F
0.05	0.95

Study All Night	
T	F
0.22	0.88

		Headache	
Study All Night	Night Out Drinking	T	F
T	T	0.91	0.09
T	F	0.63	0.27
F	T	0.85	0.15

F	F	0.001	0.999

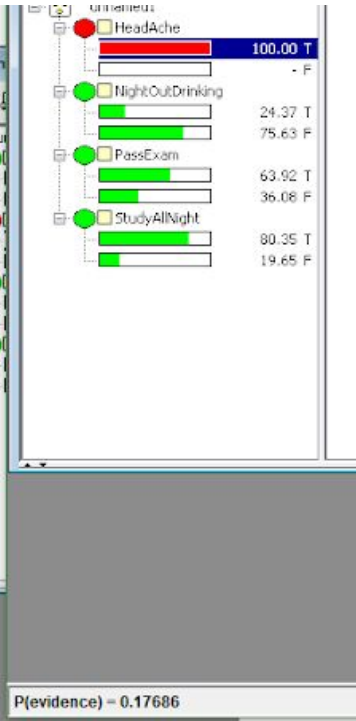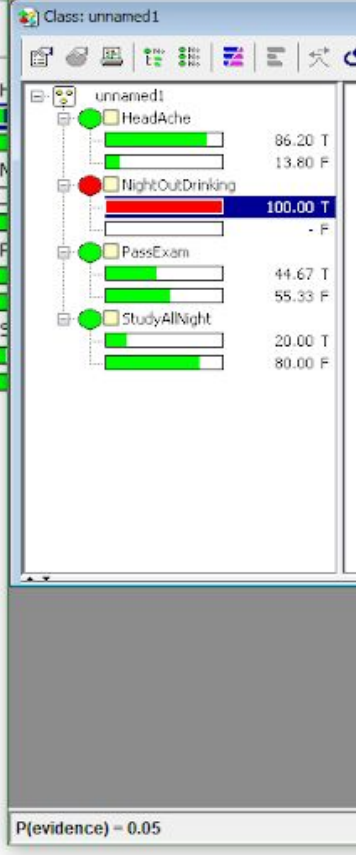|		Pass Exam	
Study All Night	Head Acke	T	F
T	T	0.71	0.29
T	F	0.95	0.05
F	T	0.35	0.65
F	F	0.52	0.48

Encode your example into the input format for your program

```
StudyAllNight, NightOutDrinking, HeadAche, PassExam
10
+NightOutDrinking=0.05
+StudyAllNight=0.22
+HeadAche|+StudyAllNight,+NightOutDrinking=0.91
+HeadAche|+StudyAllNight,-NightOutDrinking=0.63
+HeadAche|-StudyAllNight,+NightOutDrinking=0.85
+HeadAche|-StudyAllNight,-NightOutDrinking=0.001
+PassExam|+StudyAllNight,+HeadAche=0.71
+PassExam|+StudyAllNight,-HeadAche=0.95
+PassExam|-StudyAllNight,+HeadAche=0.35
+PassExam|-StudyAllNight,-HeadAche=0.52
5
+HeadAche
+NightOutDrinking
+PassExam
+NightOutDrinking|+PassExam
+StudyAllNight,+NightOutDrinking|+PassExam
```
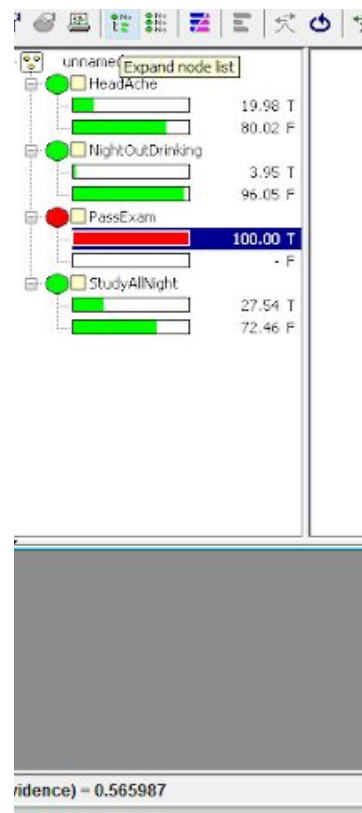
Querys:
```
+HeadAche
+NightOutDrinking
+PassExam
+NightOutDrinking|+PassExam
+StudyAllNight,+NightOutDrinking|+PassExam
```
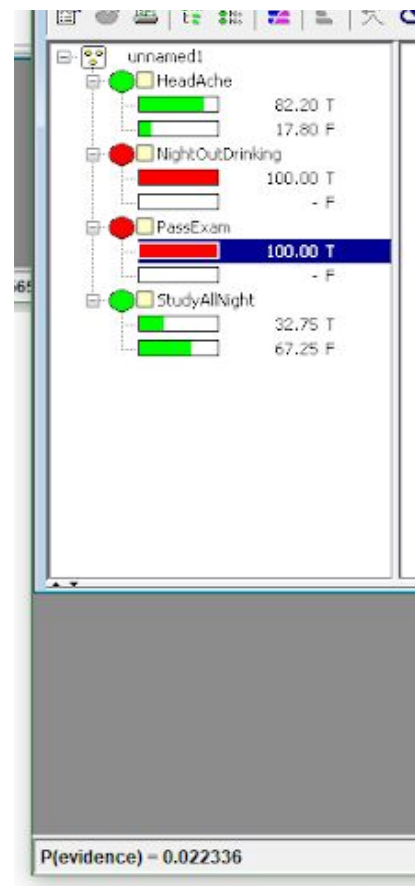
Compare the output to Hugin Lite to see that the values between both match.

Our program	Hugin
0.175571	 P(evidence) = 0.17686
0.05	 P(evidence) = 0.05

0.5748353

0.0394758

0.0139998

P(evidence) = 0.007316
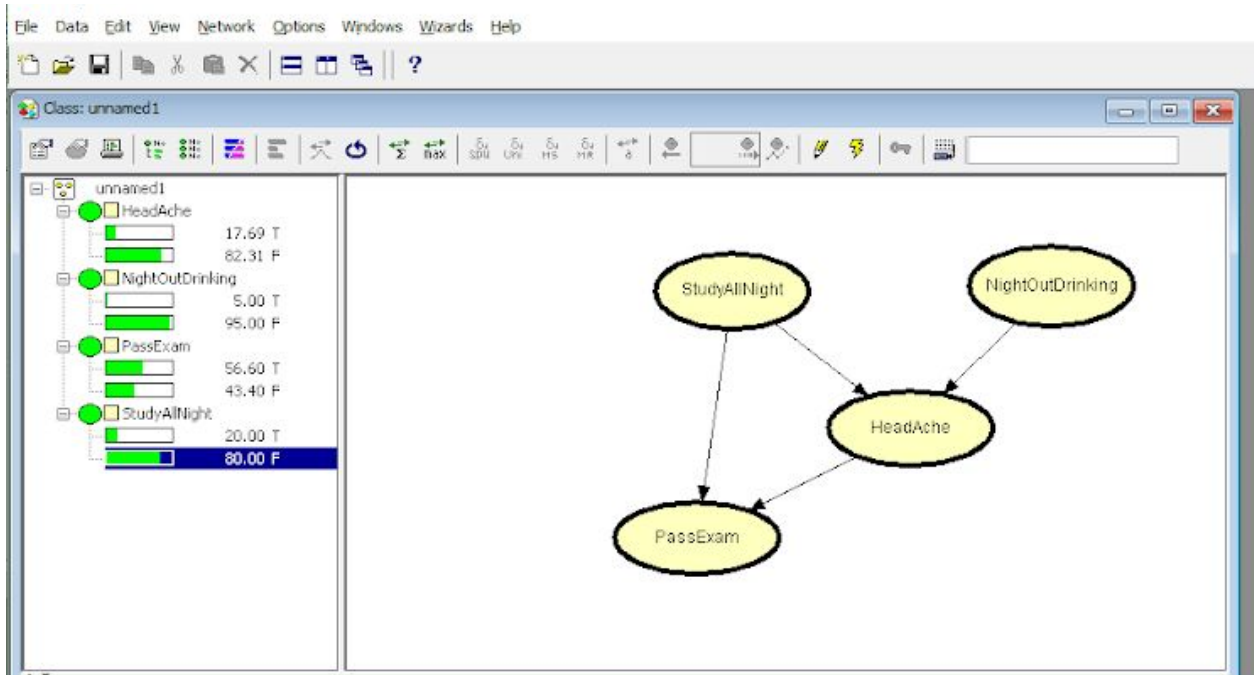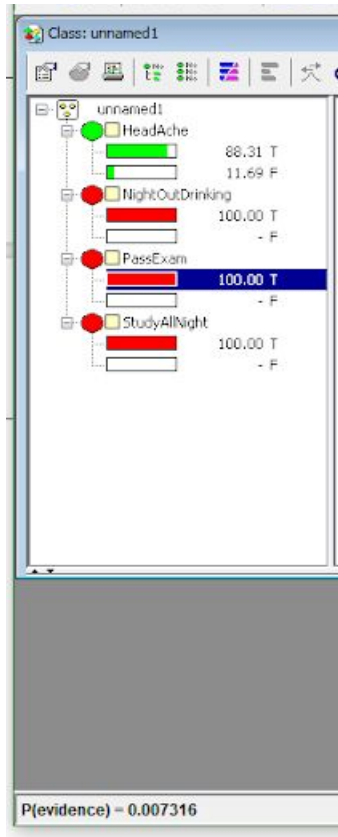

Write a reflection or make a table where you compare Hugin Lite to your implementation.

What are the differences between what they generate?

The programs generate some equal values and some quite similar, the operations might be different. The way to show the data also is different, we normalize between 0 and 1 and hugin sometimes gives ranges between 0 to 100.

Do they use the same algorithms?

What are their common bases?

The common base is the use of Bayesian theory in all calculations, they might use them in a different way but we guarantee that they are based on the Bayes Network theory.

Which tool would you use for what cases in real life applications? (400 to 500 words)

In the scenario of teaching to someone or show how the bayesian networks behave; The best option is to use the Hugin software. The first difference between our program and Hugin software as all may noticed is the lack of a graphical interface, this is very useful to show how the bayesian network looks, connects and interacts.

Also in a scenario where the bayesian network is in constant change, it would be better to use the Hugin software because there you can easily manipulate, add, or remove nodes and probabilities. Although Hugin software is not simple to understand and master, our program is limited by just working in giving the probabilities with specific inputs.

If a person just need to know specific probabilities given some input, then our program is the best option, like the probability of having a car crash, if its raining or n scenarios.

Both are good and somethings, but overall maybe the Hugin software dominates over our program by the simple fact that it was created by specialized people.