**ACI Assignment 2**

**Question 4 – User knowledge data processing for decision making**

Below is given the link for a data set from the UCI ML repository.

1. User Knowledge Modeling Data Set

<https://archive.ics.uci.edu/ml/datasets/User+Knowledge+Modeling>

Download the data set and the data set names files. The data set consists of the actual data and the data set names file gives the description of the data sets.

You are required to do the following:

Question 1: Python

1. Construct a Bayesian Belief Network for the given data.

Use appropriate methods to perform the following:

1. Predict the probability of the user having the following characteristics: study time for goal objective : 0.09, repetitions for goal objective: 0.15, study time for relative objective : 0.4, performance of user for relative objective: 0.1 and performance of user in goal objective 0.6 for a middle level performer.
2. Predict the type of the user’s knowledge with the following characteristics: study time for goal objective : 0, repetitions for goal objective: 0, study time for relative objective : 0.5, performance of user for relative objective: 0.2 and performance of user in goal objective 0.85.
3. Infer the probability for the data : study time for goal objective: 0.8. study time for relative objective: 0.78, repetitions for goal objective: 0, study time for relative objective : 0.8, performance of user for relative objective: 0.9 and performance of user in goal objective 0.9 for a middle level performer

Question 2: Prolog

1. Use Any of the decision tree algorithms to build a decision tree for the given data
2. Create rules from the decision tree.
3. Code the rules into a Prolog Knowledge base
4. Get the car user characteristics as input and give the type of knowledge of the user as output.