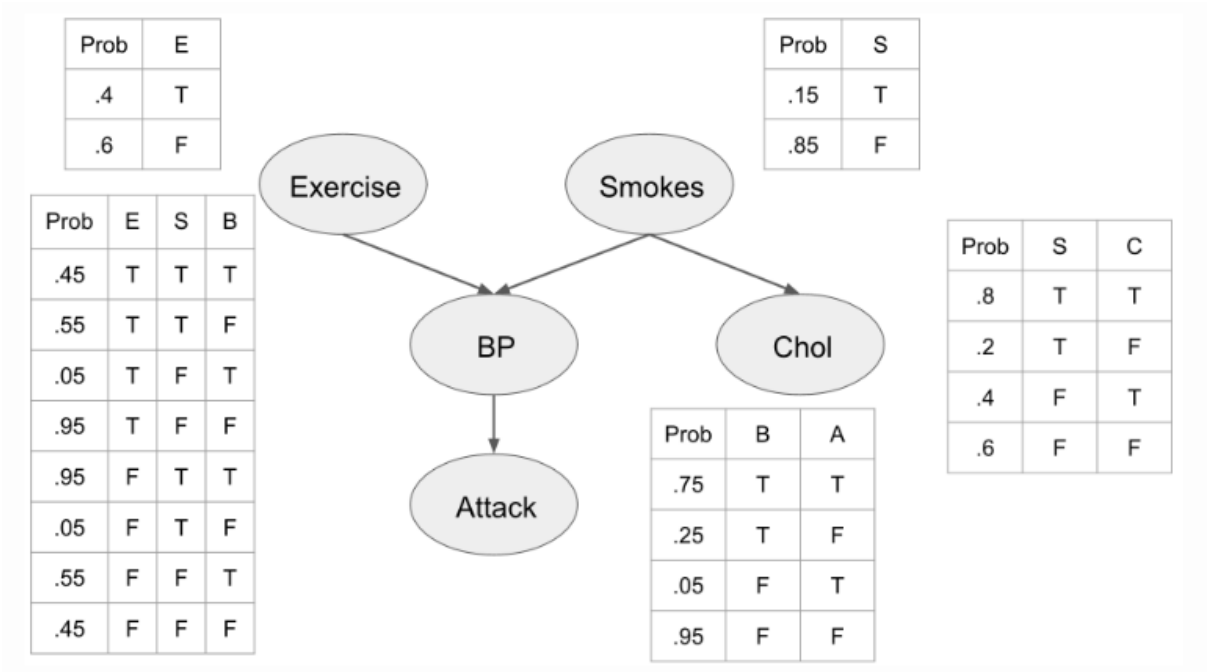
Assignment 2

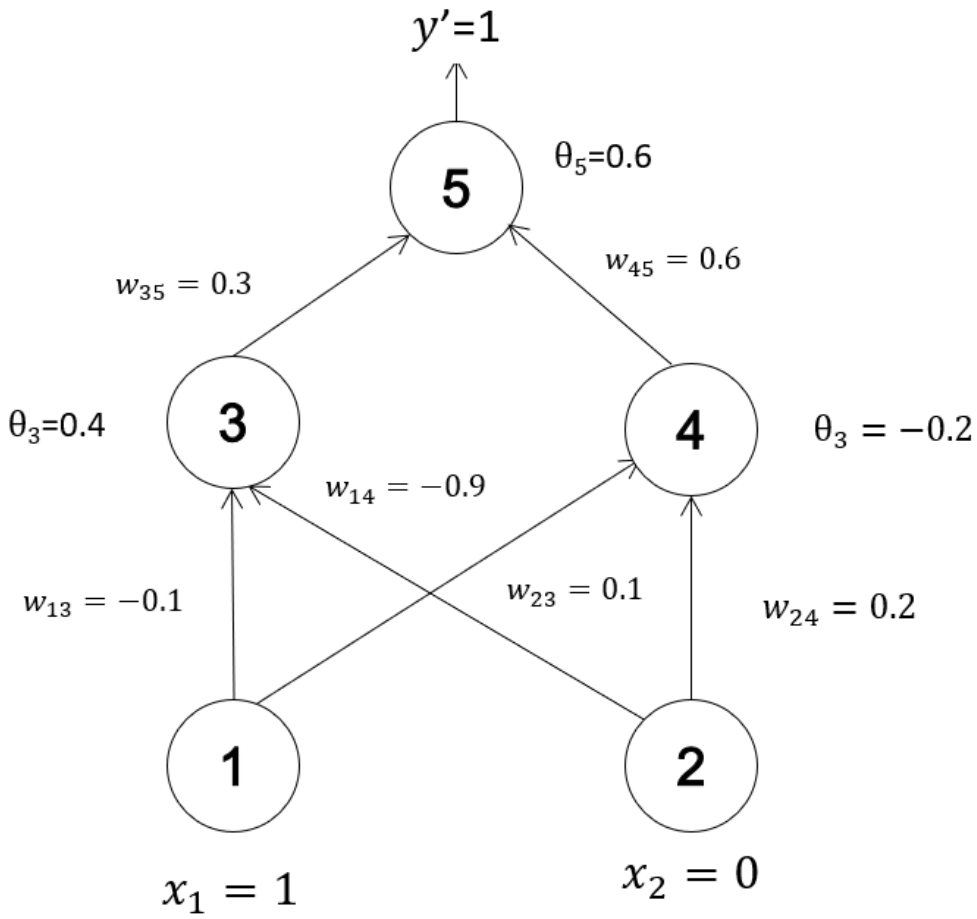
1. Using Naïve Bayes Classifier on the above dataset, classify these 3 examples. Following 3 examples are to be classified using Naïve Bayes Classifier:
   i. P(Color=”Red”, Type=”SUV”,Doors=2,Tires=”Whitewall”)
   ii. P(Color=”Green”, Type=”Car”,Doors=4,Tires=”Whitewall”)
   iii. P(Color=”Blue”, Type=”Minivan”,Doors=4,Tires=”Blackwall”)

Color	Type	Doors	Tires	Class
Red	SUV	2	Whitewall	+
Blue	Minivan	4	Whitewall	-
Green	Car	4	Whitewall	-
Red	Minivan	4	Blackwall	-
Green	Car	2	Blackwall	+
Green	SUV	4	Blackwall	-
Blue	SUV	2	Blackwall	-
Blue	Car	2	Whitewall	+
Red	SUV	2	Blackwall	-
Blue	Car	4	Blackwall	-

2. Answer the following questions given the below Bayesian Belief Network:
   i). What is the probability of the patient exercising regularly, not smoking, not having high cholesterol, not having high BP, and
      a) Not getting a heart attack?
      b) Getting a heart attack?
   ii). A person exercises regularly and smokes. He does not have high cholesterol but he got a heart attack. Does he have a high BP or not?



3. Given below is a feedforward neural network, using the backpropagation algorithm, train the network. Assume a learning rate of 0.8 with an input tuple X=[0 1 1].



4. For any Analytics project to be successful, which are the different key roles to be considered?
5. Write a note on Data Analytics Lifecycle.