1 Now

For this algorithm I didn't use any algorithms which improve the speed of finding the optimal solution. The reason is that I have split the work into 4 parts such as when ration of comfort to energy saving is in ranges (0, 0.33], (0.33, 1], (1, 3], (3, +inf). Therefore, because I have 5 actuators, which requires energy such as lamps (light bulbs), heater, air conditioner, ventilation (I split HVAC system into 3) and computers. Thus, I have divided 100 by 5 so every actuator has cost = 20. However, because there are more than 1 lamps and computers, it is required to divide 20 by the number of lamps/computers. Then, I use **divide&conquer** method to build a decision tree.

In the code, which I provided, there are many attributes, but when I actually connect this code to the database, there will be non attributes because I will get data from the database.

Console.log is used to check whether everything is correct or not.

In the comments I wrote ideal temperatures, lux level, CO2 level, and etc. It is needed to make rules.

All questions with unobservable variables are asked on home page.

I made a rule for the system to decide what chance of rain it is as follows:

1. If the user answers that it is rainy, then the chance of rain is 100%
2. If the user answers that it is not rainy, then he/she has to fill in what chance of rain is given (weather prognosis).
   (a) If chance of rain is in the range of [0, 20]∪[80, 100], then rain is likely to happen/not happen. We write the value of the chance of rain as it is given, i.e. if it is 18, then in the database it will be 18
   (b) If chance of rain is in the range of (20, 80), then the system asks the user whether it is cloudy or not. If it is cloudy, then the chance of rain is 80, otherwise 20.

2 To add

1. I will add a button to change a user who answering questions if he/she is tired or doesn't want to assist the environment at the moment.
2. I will finish the algorithm for other rules.
3. Make the interface more user-friendly

3 What went wrong

I am not sure I can implement the location thing in this app because I have to rewrite data to be hosted on different devices. But I am not sure if I have time. For now, it is the tested system, i.e. how it should look like with location functionality, notifications, etc.