

# Report for Assignment 3

Name: Xichan Liu  
SBID : 109771825  
Name: Chenxi Xin  
SBID : 110046637

## Results comparison between three methods

I used the data that modified by myself, and the result is below:

Methods	Nodes Expanded	Time
BS	More than 20M	NA
BS+FC	626	2.043s
BS+FC+CP	626	9.954s

## Analysis of the Results

1. For the data set, the Backtracking search cannot find a solution. It did not get a solution when it searched about 20M nodes. But when we add forward check to it. It only takes 626 nodes to find the solution. It improves a lot.
2. The constraint propagation did not decrease the number of nodes expanded. But the time consumption increase.
3. For the problem TA assignment is different from the map coloring problem simply because TA will not be used by two courses as full TA. And each class has lots of TA that satisfy for the requirement. So the constraint propagation do not have to much effect. But it should judge the conflict every time before forward check, so it takes more time than BS+FC.