

# Something More about Q2 in Assignment 10

September 19, 2019

## 1 Application of Disjunctive Normal Form

A. and B. find themselves trapped in a dark and cold dungeon. After a quick search they find three doors; the first one red, the second one blue, and the third one green. Behind some of the doors is a path to freedom. Behind the other two doors, however, is almost certain death. (Maybe behind all of the doors is a path to freedom. Also, maybe behind none of the doors is a path to freedom.) On each door there is an inscription: the red door says “freedom is behind this door”, the blue door says “freedom is not behind this door” and the green door says “if freedom is behind the red door, then this door will also lead to freedom”. Given the fact that at ONLY ONE of the three statements on the three doors is true, which doors should A. and B. choose to make at least one of them survive? (A. and B. can choose two different doors or they can choose the same door.)