**PROBLEM**

Given an instance of this lightbulb problem, determine if there is a configuration of the switches

so that all lightbulbs are simultaneously on. If the answer is YES, then provide the sequence of

up/down for each switch. If the answer is NO, provide a "proof" of this fact.

Answer:

YES

5000 sample1=(-1,-2,-3,……..,-9,-10) and all other switches are either positive or negative(21 to 500)

5000 sample1=(-11,-12,-13,……..,-19,-20) and all other switches are either positive or negative(21 to 500)

10000 sample1=(-1,-2,-3,……..,-19,-20) and all other switches are either positive or negative(41 to 1000)

10000 sample1=(-21,-22,-23,……..,-39,-40) and all other switches are either positive or negative(41 to 1000)