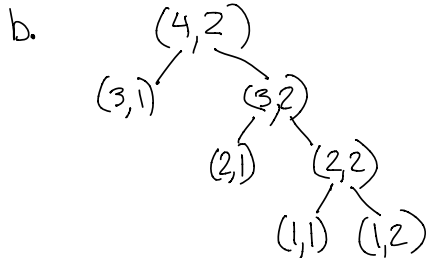a. The optimal substructure would be if a sheet of glass breaks at floor x, there exists a number of floors before x where the glass will not break.

b.
```
        (4,2)
       /     \
   (3,1)     (3,2)
            /     \
        (2,1)     (2,2)
                 /     \
             (1,1)     (1,2)
```

d. There would be 3 distinct subproblems

e. $\log_2(nk)$

f. Using a 2D array, I would store the value of the sheets dropping per floor and then return the value in the last element of the array. Because each value in previous floors are already stored in the array, there is no need to repeat the math.