Image #7:

a) $dp[i][0]$:

b) from $dp[i-1][0]$:

Image #8:

a)
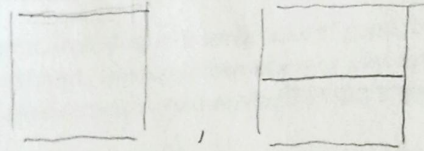
b)   ,   2 possibilities

Image #9:

a) from $dp[i-1][1]$:

b)   , ✗ , ✗   1 possibility

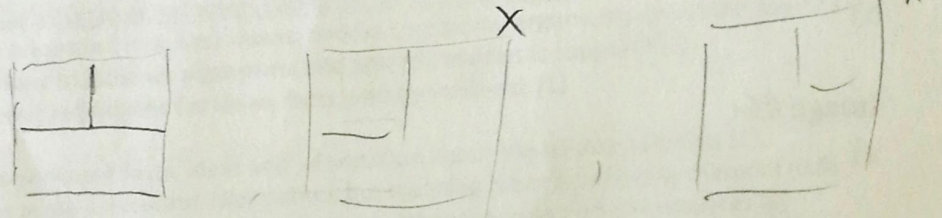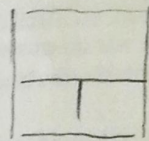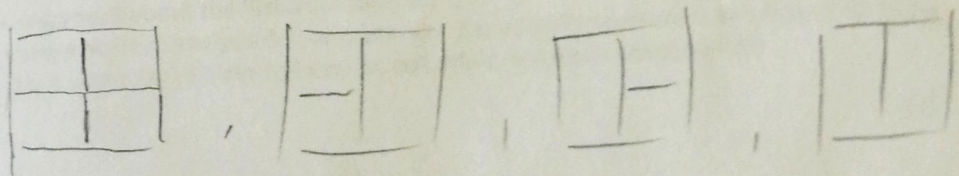**Image #10:**

a)

b) $dp[i][1]$:

from $dp[i-1][0]$:

   1 possibility

from $dp[i-1][1]$

 , , ,   4 possibilities

$$=\begin{cases} dp[i][0] = 2\,dp[i-1][0] + dp[i-1][1] \\ dp[i][1] = dp[i-1][0] + 4\,dp[i-1][1] \end{cases}$$