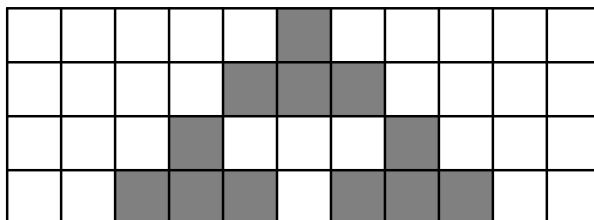


Ninth homework set solution

1. Because LLD gives L , the right edge of the line of L cells remains unchanged. Because LLL gives L , every cell except the left-most and right-most L cells stay L . Because DLL gives D , the left-most L cell of the line dies. Consequently, 20 L cells in generation 1 give rise to 19 in generation 2, 18 in generation 3, ..., 1 in generation 20, and 0 in all later generations.



2. Here are the remaining generations.



3. In order for cell A to be L , cells D , E , and F must be LLD or DDL , so in either case, cell E must be L . In order for cell C to be L , cells F , G , and H must be LLD or LLD , so in either case, cell G must be L . But then cell B cannot be L , because neither LDL nor LLL gives a L cell.

