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Q3.

First connect every square  $i$  with  $i + 1$ ,  $i + n$  with a directed edge (e.g. From  $i$  to  $i + n$ ) of infinite capacity. Now we have a graph of squares interconnected with each other, and the capacity of all the edges are currently set to infinite. We can further model this graph by using the method of max flow problem with vertex capacities. In this scenario, for each node  $v$  in the graph with node capacity  $A[v]$ , has two nodes two nodes  $v1$  and  $v2$ . All incoming edges to  $v$  connect to  $v1$ , and all outgoing edges from  $v$  connect from  $v2$ . Finally, add the edge  $(v1, v2)$  with edge capacity  $A[v]$ . Now the problem has been converted to a normal max flow problem which can be solved by using Ford-Fulkerson algorithm to find maximum number of children who can jump on square  $i$ .