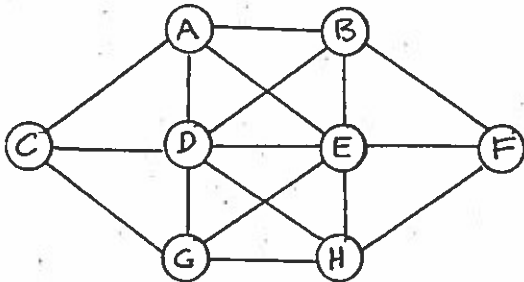
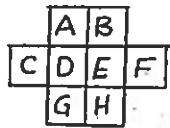
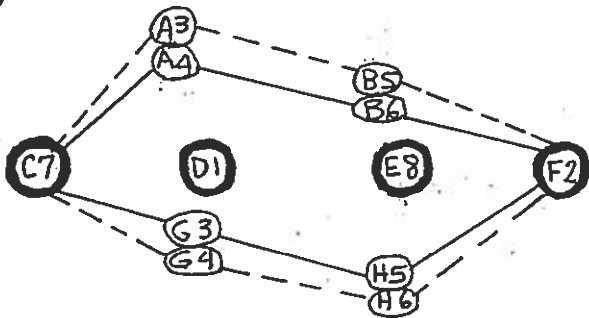


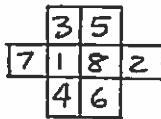
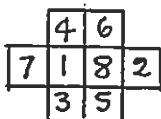
**5**



The network shows that nodes connected by an arc cannot hold consecutive numbers. Nodes D and E each has 6 emanating arcs, whereas all the remaining nodes have at most 4 emanating arcs. Because 1 and 8 each can have 6 nonconsecutive neighbors (namely, 1-3, 1-4, 1-5, 1-6, 1-7, 1-8 or 8-6, 8-5, 8-4, 8-3, 8-2, 8-1) and no other number has this property, 1 and 8 must be assigned to D and E. Letting D=1 and E=8, we must assign C=7 and F=2 because 2 and 7 can't be assigned anywhere else without violating the sequence condition. Next, we have the following possibilities:



Two possible solutions indicated by the solid and dashed arcs:



Switch D=1 and E=8 to two mirror arrangements.

**6**

Let  $i \equiv$  inmate  
 $g \equiv$  guard

For each node, top half represents the number of  $i$ 's and  $g$ 's on the mainland side. The bottom half is that of the island.

