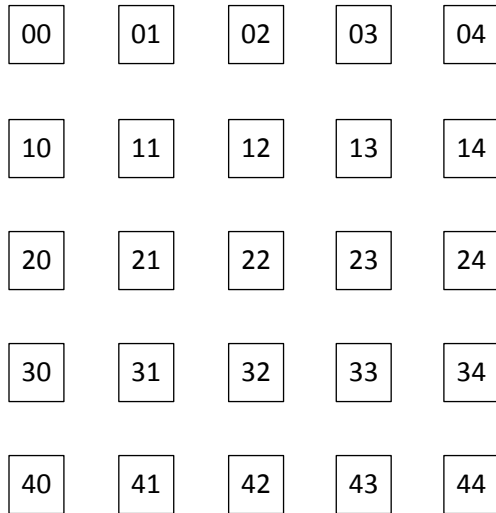
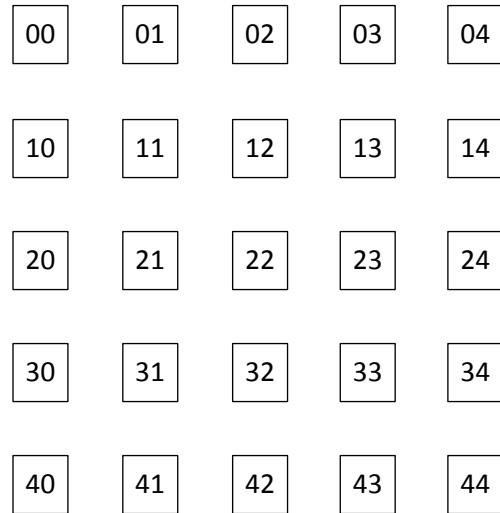


Let G be a graph with 25 vertices labeled a_1a_2 where $0 \leq a_1 \leq 4$ and $0 \leq a_2 \leq 4$. Graph G has an edge between vertices a_1a_2 and b_1b_2 whenever both $|a_1 - b_1| \leq 1$ and $|a_2 - b_2| \leq 1$. Horizontal edges have weight 1, vertical edges have weight 2, and diagonal edges have weight 4.

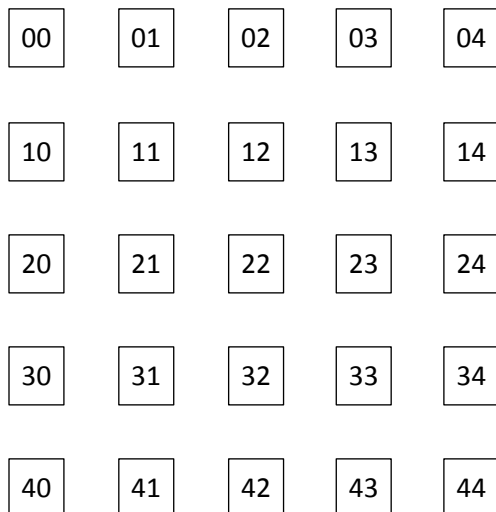
Draw the edges of the graph G .
Label each edge with its weight.



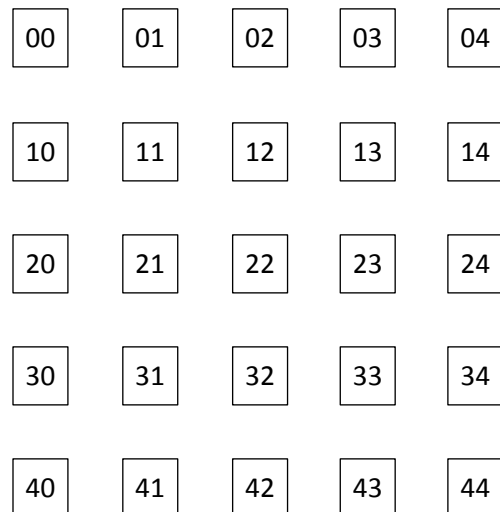
Draw a maximum spanning tree of G .
Also write the total cost of this tree.



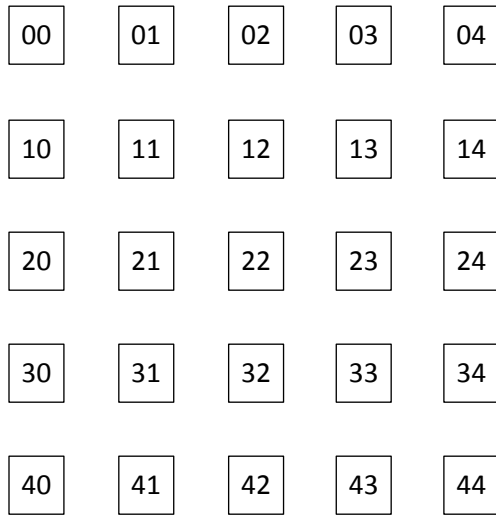
Draw a DFS tree with root vertex 00.
Visit neighbors in ascending order.



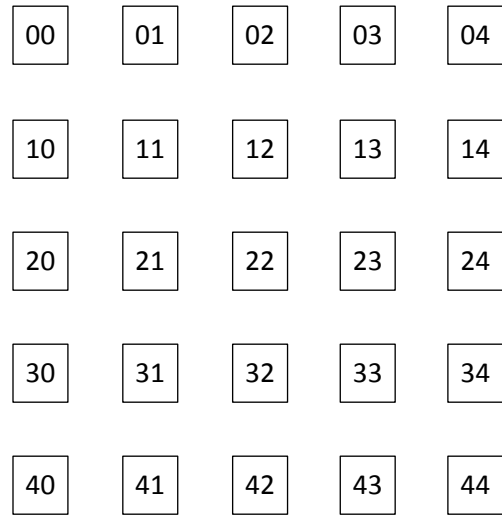
Draw a DFS tree with root vertex 44.
Visit neighbors in ascending order.



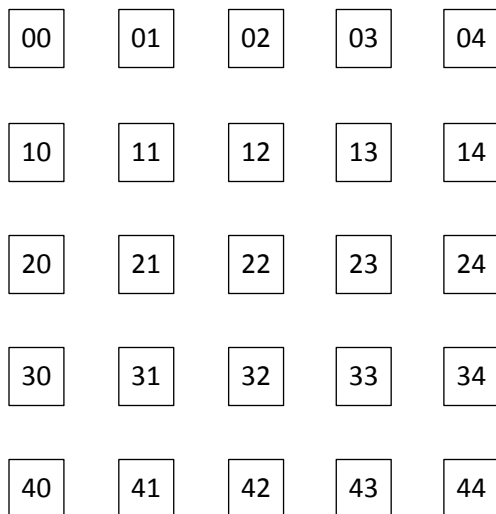
Draw a BFS tree with root vertex 00.
Visit neighbors in ascending order.



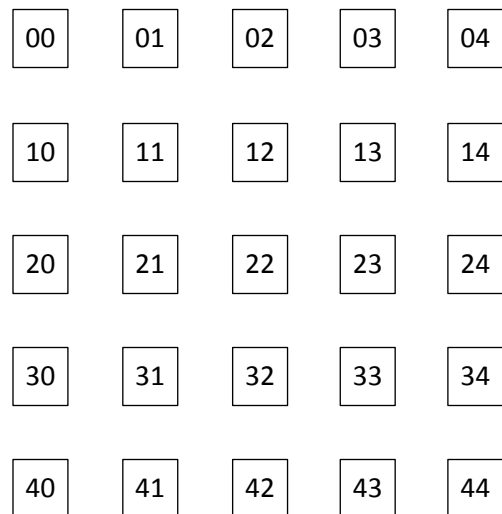
Draw a BFS tree with root vertex 22.
Visit neighbors in ascending order.



Draw a shortest paths tree with root 00.
Write the distance to each vertex.



Draw a shortest paths tree with root 22.
Write the distance to each vertex.



Complete the weighted adjacency matrix for graph G. You may use blank entries to denote ∞ .

[illegible]

Complete the weighted adjacency lists data structure for graph G.

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