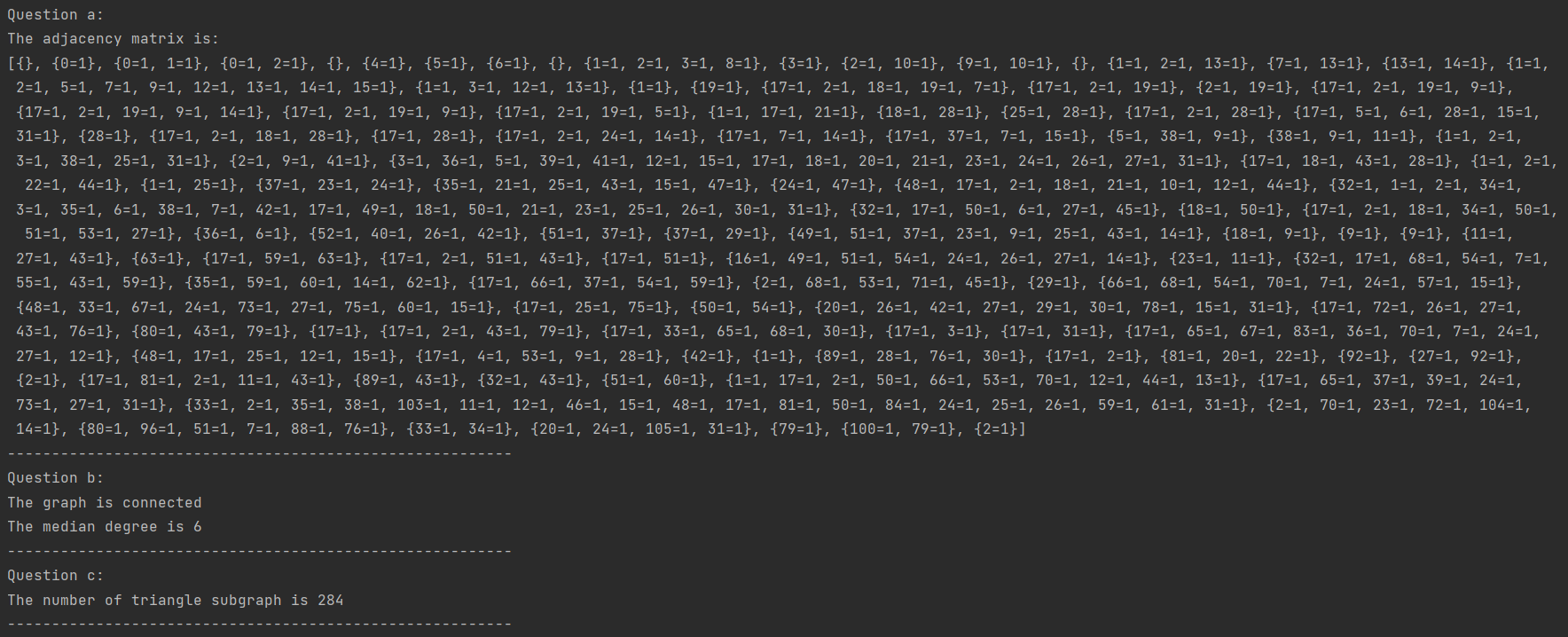
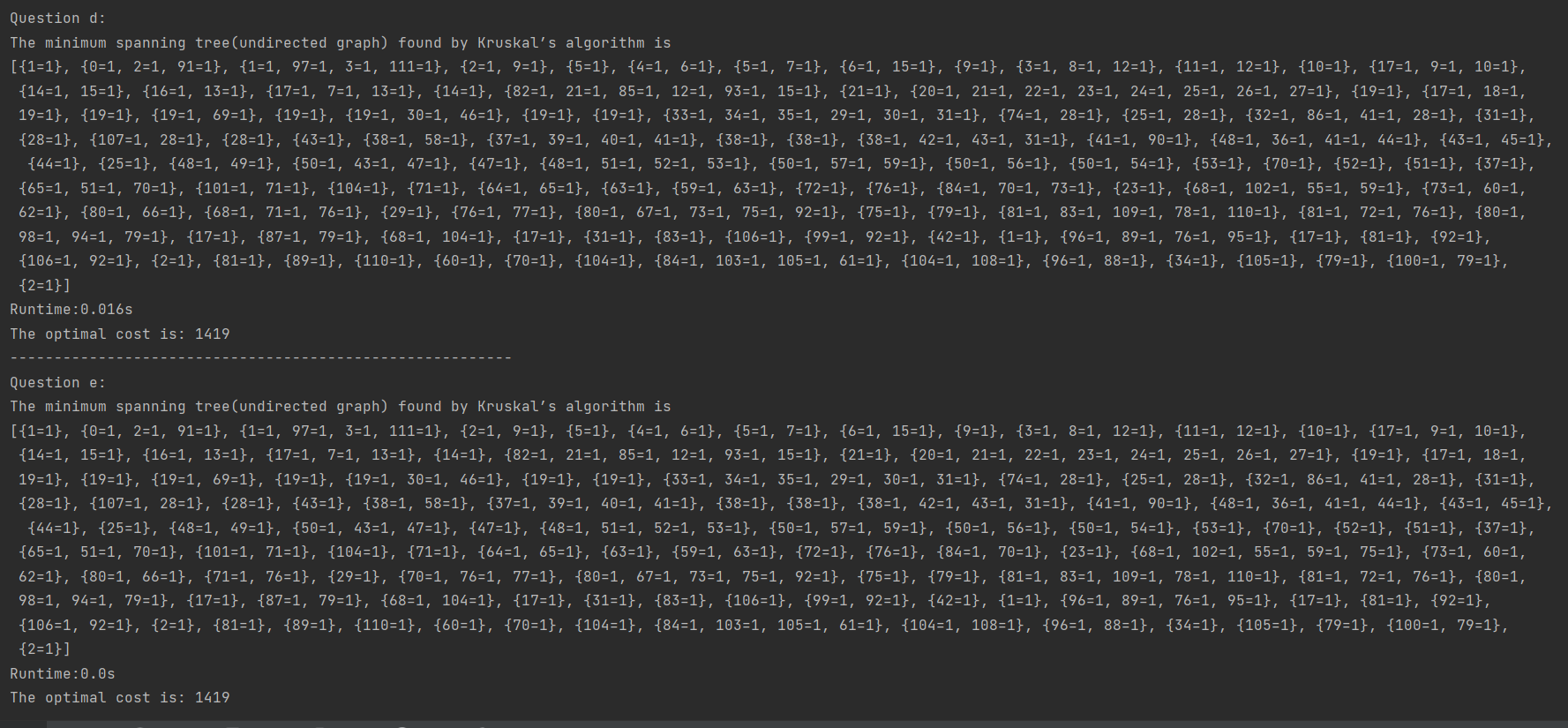
Questions a to e





Question f

The running time, optimal cost, and the optimal solution are shown as above. The reason why the time is different is that the two algorithms have different time complexity

Question g

indicates the network flow on edge (i,j) is in the tree.

For each vertex i, ensure that exactly one incoming and one outgoing edge are present: Out degree constraint: = 1 for all vertices i. In degree constraint: = 1 for all vertices i

Objective function: Minimize the sum of the edge weights in the tree

is the cost of edge (i,j), and is the network flow on edge (i,j) is in the tree.

Question h

The result is shown as below. The algorithm is optimized and costs less time than the algorithms

as above.

