

Microproject tasking: finding the shortest tour in a logistical process

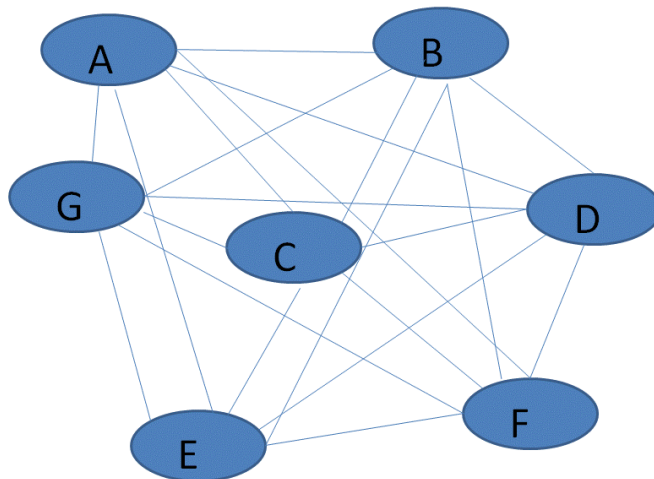
Problem

A logistics company wants to send packages via drones. For preliminary research it is up to you to find an algorithm for distribution. The distributor is interested in solving two problems.

The first problem is to plan the **shortest route** through a certain set of stations, where **not** all stations have to be reached. This problem can be solved with the so-called “Dijkstra-algorithm”.

The second problem is called the “traveling salesman problem (TSP)” which requires that all the delivering stations have to be reached in one tour. The challenge is to find the shortest route which includes all stations.

Let’s assume that the network of stations looks like this:





Distances between the stations

	A	B	C	D	E	F	G
A	-						
B	57	-					
C	13	26	-				
D	60	16	25	-			
E	70	80	30	27	-		
F	85	55	35	17	13	-	
G	13	34	12	66	24	55	-