

Metadata

Files

1. An.txt - Survey stations that can be chosen by stage
 - Each line start with the number of survey stations and the sequence of id's of survey stations that can be chosen by stage (tab separated values).
2. config.txt - General sets and parameters
 - P: Number of survey stations
 - S: Number of survey stations
 - N: Number of stages planned for the traffic survey
 - Q: Number of stages that each support unit can be utilized
 - Csp: Costs (by kilometer) related to the movement of a team of researchers from a support unit $s \in S$ to a survey station $p \in P$
 - Gamma: Represents a penalty (cost) assigned to the allocation of a fictitious support unit (*dummy*) to a survey station
 - Theta: Represents a penalty (cost) assigned to use a fictitious support unit (*dummy*)
 - Max: Maximum number of distinct support units that can be used
 - QTDPn: Number of survey stations by stage (space separated vector)
 - delta[Q]: Support unit costs by stage (space separated vector)
3. coverage.txt - Coverage
 - In the first line, number of survey stations
 - In the following lines, the sequence of: id (survey station), external id (survey station), number of support units that can be serve this survey station and a vector with id's of these survey stations (tab separated values).
4. distances.txt - Distances between survey stations and support units
 - The columns represent the survey stations and the lines represent support units
5. MAXUAn.txt - Maximum number of support units that can be used in each stage
 - Each line represents one stage of survey
6. S.txt - Support units and its capacities
 - In the first line, number of support units
 - In the following lines, the sequence of: id (support unit), external id (support unit) and capacity of each support unit

Instances

Table 1: Summary of generated instances for the computational experiments

#	Instances	N	P	S	Number of Variables	#	Instances	N	P	S	Number of Variables
1	BSULP-1x30x30	1	30	30	643	20	BSULP-1x90x60	1	90	60	3425
2	BSULP-1x30x60	1	30	60	1202	21	BSULP-1x90x90	1	90	90	5141
3	BSULP-1x30x90	1	30	90	1834	22	BSULP-2x90x30	2	90	30	3642
4	BSULP-2x30x30	2	30	30	1210	23	BSULP-2x90x60	2	90	60	6966
5	BSULP-2x30x60	2	30	60	2644	24	BSULP-2x90x90	2	90	90	9910
6	BSULP-2x30x90	2	30	90	3734	25	BSULP-3x90x30	3	90	30	5262
7	BSULP-3x30x30	3	30	30	2007	26	BSULP-3x90x60	3	90	60	10422
8	BSULP-3x30x60	3	30	60	3285	27	BSULP-3x90x90	3	90	90	15516
9	BSULP-3x30x90	3	30	90	5742	28	BSULP-2x120x120	2	120	120	18340
10	BSULP-1x60x30	1	60	30	1244	29	BSULP-2x120x180	2	120	180	26898
11	BSULP-1x60x60	1	60	60	2344	30	BSULP-2x120x240	2	120	240	35172
12	BSULP-1x60x90	1	60	90	3265	31	BSULP-3x120x120	3	120	120	26223
13	BSULP-2x60x30	2	60	30	2430	32	BSULP-3x120x180	3	120	180	39654
14	BSULP-2x60x60	2	60	60	4678	33	BSULP-3x120x240	3	120	240	54339
15	BSULP-2x60x90	2	60	90	7530	34	BSULP-4x120x120	4	120	120	38040
16	BSULP-3x60x30	3	60	30	3570	35	BSULP-4x120x180	4	120	180	51404
17	BSULP-3x60x60	3	60	60	7461	36	BSULP-4x120x240	4	120	240	69040
18	BSULP-3x60x90	3	60	90	10395	37	BSULP-4x300x300	4	300	300	218384
19	BSULP-1x90x30	1	90	30	1917	38	BSULP-4x300x500	4	300	500	364780