MAS Task 1

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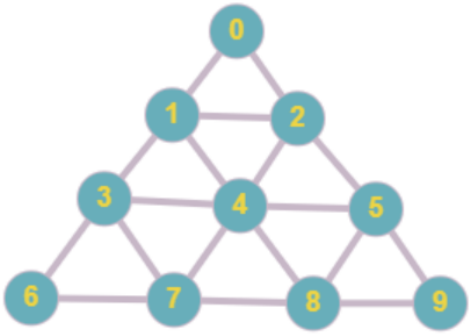

Figure 1: Topology of the graph

Root node: 0. Cost of a memory cell: 10$, cost of a message: 0.01$, cost of a Data Center call: 1000$.

N	M	K	T	Mem.	Comp.	Sum.	Mul/Div	Local Cost	DC Cost	Total Cost
10	36	3	56	2*10+3	2	2*(10-1)	1	230.56	1000	1230.56

Table 1: N – num. of nodes, M – num. of connections, K – depth, T – time (num. of messages sent), Mem. – memory (1 array with nodes, 1 array with roots, 3 variables with agent IDs: self, root and previous), Comp. – num. of comparisons, Sum. – num. of sums, Mul/Div – num. of multiplications and divisions, Local cost – cost of everything within the graph, DC Cost – cost of all the calls to our Data Center, Total Cost = Local Cost + DC Cost