

	WORD	BOOL	INT	UDINT	USINT	UINT	REAL	string	Total
Program 1	0	1	2	0	1	0	0	2	6
Program 2	0	2	0	0	1	0	0	0	3
Program 3	0	3	1	0	0	0	0	0	4
Program 4	0	1	0	0	2	0	0	0	3
Program 5	0	1	0	0	3	0	0	0	4
Program 6	2	2	0	0	0	0	0	0	4
Program 7	0	1	0	0	5	0	0	2	8
Program 8	0	3	0	0	4	0	0	0	7
Program 9	0	4	0	1	1	1	0	0	7
Program 10	0	3	2	1	1	1	0	0	8
Program 11	0	1	0	0	6	0	0	0	7
Program 12	0	13	1	0	0	0	7	0	21
Program 13	0	7	4	2	1	8	0	0	22
Program 14	0	18	0	0	5	0	0	0	23
Program 15	0	13	3	1	1	1	3	0	22
Program 16	0	0	0	0	14	0	0	0	14
Program 17	1	6	4	0	0	1	0	0	12
Total	3	79	17	5	45	12	10	4	175

Table 1: The data types for each XML program

Program	t	IPOG		IPOG-F		IPOFG-F2	
		Tests	Time	Tests	Time	Tests	Time
Program 1	1	43	0.017	43	0.015	x	x
	2	1849	0.052	1849	0.245	1849	0.342
	3	20339	0.138	20339	11.57	20592	13.707
	4	203390	0.502	203390	926.115	203390	821.583
	5	813560	0.93	813560	>3600	OOM	OOM
	6	1627120	0.826				
Program 2	1	7	0.014	7	0.014	x	x
	2	14	0.014	14	0.013	14	0.003
	3	28	0.003	28	0.003	28	0.002
	4	x	x	x	x	x	x
	5	x	x	x	x	x	x
	6	x	x	x	x	x	x
Program 3	1	9	0.013	9	0.014	x	x
	2	18	0.016	18	0.014	20	0.003
	3	36	0.015	36	0.014	36	0.003
	4	72	0.004	72	0.002	72	0.003
	5	x	x	x	x	x	x
	6	x	x	x	x	x	x
Program 4	1	6	0.014	6	0.02	x	x
	2	24	0.014	24	0.013	24	0.003
	3	48	0.003	48	0.003	48	0.002
	4	x	x	x	x	x	x
	5	x	x	x	x	x	x
	6	x	x	x	x	x	x
Program 5	1	5	0.016	5	0.013	x	x
	2	25	0.014	25	0.014	25	0.003
	3	75	0.015	75	0.019	75	0.004
	4	150	0.003	150	0.003	150	0.002
	5	x	x	x	x	x	x
	6	x	x	x	x	x	x

Program 6	1	2	0.016	2	0.016	x	x
	2	14	0.021	11	0.024	11	0.006
	3	34	0.056	30	0.063	33	0.016
	4	85	0.294	83	0.438	86	0.078
	5	220	5.698	214	9.222	216	0.449
	6	538	98.043	519	237.51	525	3.641
Program 7	1	101	0.016	101	0.019	x	x
	2	1117	0.054	1111	0.275	1121	0.23
	3	12312	0.188	12221	9.822	12676	11.44
	4	123634	1.232	122210	1278.517	OOM	OOM
	5	782425	33.757	733319	>3600		
	6	4401170	64.98				
Program 8	1	7	0.014	7	0.013	x	x
	2	42	0.018	42	0.018	42	0.006
	3	210	0.021	210	0.037	211	0.018
	4	842	0.026	840	0.118	844	0.087
	5	1696	0.03	1706	0.34	2161	0.229
	6	3360	0.03	3360	0.354	3838	0.327
Program 9	1	97	0.018	97	0.018	x	x
	2	2134	0.05	2134	0.286	2134	0.549
	3	19206	0.189	19206	8.634	19206	19.524
	4	38414	0.241	38701	63.426	OOM	OOM
	5	115236	13.432	115236	208.317		
	6	153648	0.314	153650	437.755		
Program 10	1	97	0.022	97	0.023	x	x
	2	8828	0.165	8827	5.086	8827	12.059
	3	35240	3.286	?	>3600	?	>3600
	4	10951469	376.848				
	5	OOM	OOM				
	6						
Program 11	1	3	0.014	3	0.014	x	x
	2	15	0.016	15	0.015	15	0.003
	3	48	0.017	46	0.019	48	0.005
	4	140	0.02	148	0.027	142	0.011
	5	346	0.023	311	0.044	355	0.019
	6	729	0.021	729	0.061	737	0.031
Program 12	1	43	0.042	43	0.024	x	x
	2	2314	0.185	2255	1.176	2317	3.5
	3	138452	66.472	132876	3554.562	?	>3600
	4	?	>3600	?	>3600		
	5						
	6						
Program 13	1	27	0.017	27	0.019	x	x
	2	650	0.059	648	0.34	652	0.357
	3	15627	0.56	15552	56.851	15712	118.307
	4	198340	36.491	?	>3600	?	>3600
	5	?	>3600				
	6						
Program 14	1	33	0.016	33	0.019	x	x
	2	231	0.028	231	0.08	231	0.13
	3	1390	0.078	1386	1.37	1444	1.804
	4	6970	0.716	6937	38.937	7801	42.313
	5	28706	13.874	28214	1322.628	OOM	OOM

	6	83579	278.038	101604	26928.018		
Program 15	1	100	0.027	100	0.034	x	x
	2	9701	0.325	9700	8.325	9700	72.349
	3	883044	23.185	?	>3600	?	>3600
	4	?	>3600				
	5						
	6						
Program 16	1	36	0.023	36	0.022	x	x
	2	2088	0.312	2016	1.414	2102	1.084
	3	125106	118.942	?	>3600	138913	2560.297
	4	?	>3600			?	>3600
	5						
	6						
Program 17	1	33	0.016	33	0.019	x	x
	2	231	0.031	231	0.089	262	0.147
	3	2140	0.136	1622	2.307	2052	4.661
	4	13340	2.021	11321	126.953	13775	195.456
	5	79702	77.008	?	>3600	OOM	OOM
	6	182211	1585.824				

Table 2: Data from test generation

Program	t	IPOG-D		BaseChoice	
		Tests	Time	Tests	Time
Program 1	1	x	x	x	x
	2	3698	0.01	108	0.002
	3	21758	0.036	x	x
	4	284746	0.381	x	x
	5	894916	3363.761	x	x
	6	?	>3600	x	x
Program 2	1	x	x	x	x
	2	26	0.003	9	0.001
	3	42	0.005	x	x
	4	x	x	x	x
	5	x	x	x	x
	6	x	x	x	x
Program 3	1	x	x	x	x
	2	34	0.003	12	0.002
	3	54	0.006	x	x
	4	126	0.004	x	x
	5	x	x	x	x
	6	x	x	x	x
Program 4	1	x	x	x	x
	2	32	0.004	10	0.002
	3	60	0.005	x	x
	4	x	x	x	x
	5	x	x	x	x
	6	x	x	x	x
Program 5	1	x	x	x	x
	2	35	0.004	12	0.002
	3	75	0.007	x	x
	4	225	0.005	x	x
	5	x	x	x	x

	6	x	x	x	x
Program 6	1	x	x	x	x
	2	130	0.017	35	0.002
	3	138	0.021	x	x
	4	192	0.03	x	x
	5	489	0.809	x	x
	6	983	49.681	x	x
Program 7	1	x	x	x	x
	2	27764	0.07	144	0.002
	3	38885	0.073	x	x
	4	222201	0.574	x	x
	5	?	>3600	x	x
	6	?	>3600	x	x
Program 8	1	x	x	x	x
	2	176	0.004	22	0.002
	3	350	0.018	x	x
	4	1400	0.024	x	x
	5	2828	0.095	x	x
	6	4340	0.152	x	x
Program 9	1	x	x	x	x
	2	5604	0.014	130	0.004
	3	22698	0.043	x	x
	4	80316	0.181	x	x
	5	165676	66.132	x	x
	6	233964	169.789	x	x
Program 10	1	x	x	x	x
	2	171696	1.115	279	0.002
	3	516040	0.233	x	x
	4	18523120	40.176	x	x
	5	?	>3600	x	x
	6			x	x
Program 11	1	x	x	x	x
	2	60	0.008	14	0.002
	3	72	0.017	x	x
	4	189	0.017	x	x
	5	502	0.029	x	x
	6	903	0.046	x	x
Program 12	1	x	x	x	x
	2	25488036	66.336	343	0.003
	3	25562124	69.453	x	x
	4	32248860	1161.482	x	x
	5	OOM	OOM	x	x
	6			x	x
Program 13	1	x	x	x	x
	2	10692624	20.949	152	0.002
	3	10707624	28.569	x	x
	4	11034566	26.655	x	x
	5	?	>3600	x	x
	6			x	x
Program 14	1	x	x	x	x
	2	12896	0.063	69	0.044
	3	14058	0.076	x	x
	4	25147	0.17	x	x

	5	55563	30.059	x	x
	6	214558	2518.895	x	x
Program 15	1	x	x	x	x
	2	OOM	OOM	399	0.003
	3			x	x
	4			x	x
	5			x	x
	6			x	x
Program 16	1	x	x	x	x
	2	OOM	OOM	491	0.003
	3			x	x
	4			x	x
	5			x	x
	6			x	x
Program 17	1	x	x	x	x
	2	26096	0.126	79	0.002
	3	27489	0.142	x	x
	4	48527	0.265	x	x
	5	129122	173.822	x	x
	6	?	>3600	x	x

Table 3: Data from test generation

Explanation of the data in Table 2 and Table 3:

Tests refer to the number of test cases in the test suite. Time is measured in seconds.

OOM = Out of memory.

x = this strength cannot be combined with the model.

? = number of tests could not be defined due to the cut time.

An empty cell means that no test was generated for this combination of strength and algorithm, due to the cell in the previous row.

Note that the strength for BaseChoice algorithm is automatically set to 1.