

Results 2017-01-18

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1 TODO todo:t |:t

2 With Additional Constraints

2.1 Small Example DB

2.1.1 Linear

```
$ sh runscript.sh -v1 -m1
Folder: ./doc/examples/linear/
```

Example	1 [ms]	2 [ms]	3 [ms]	Avg	RetVal
addition.trs	87	53	34	58.0	Success
append.trs	51	53	56	53.3	Success
id.trs	38	31	38	35.6	Success
list.trs	87	100	98	95.0	Success
minus.trs	56	35	28	39.6	Success
queue.trs	341	393	348	360.6	Success
quotient.trs	135	96	85	105.3	Success
reverse.trs	50	47	37	44.6	Success
typed-div.trs	121	134	106	120.3	Success
typed-flatten.trs	107	88	86	93.6	Success
typed-jones1.trs	45	49	55	49.6	Success
typed-jones2.trs	31	29	37	32.3	Success
typed-jones4.trs	85	86	60	77.0	Success
typed-jones6.trs	98	117	101	105.3	Success
typed-rationalPotential.raml.trs	95	82	77	84.6	Success

Folder: ./doc/examples/quadratic/

Example	1 [ms]	2 [ms]	3 [ms]	Avg	RetVal
exp.trs	115	98	98	103.6	Failure
infeasible.trs	72	64	64	66.6	Failure
mult3.trs	76	73	81	76.6	Failure
pairs.trs	162	159	162	161.0	Failure
reverse.trs	124	131	122	125.6	Failure
typed-appendAll.raml.trs	105	77	82	88.0	Failure
typed-bits.trs	263	263	270	265.3	Failure
typed-dcquad.trs	179	196	164	179.6	Failure
typed-exp.trs	100	97	114	103.6	Failure
typed-isort.trs	252	252	256	253.3	Failure
typed-jones5.trs	82	124	94	100.0	Failure
typed-lcs-safe.trs	2385	2196	2142	2241.0	Failure
typed-lcs.trs	1753	1783	1737	1757.6	Failure
typed-minsort.raml.trs	650	609	686	648.3	Failure
typed-pairs.trs	215	181	211	202.3	Failure
typed-qbf.trs	1264	1275	1250	1263.0	Failure
typed-quad.trs	92	97	122	103.6	Failure
typed-quicksort-nat.trs	329	335	295	319.6	Failure
typed-reverse.trs	131	139	143	137.6	Failure
typed-sat.trs	522	525	519	522.0	Failure
typed-shufflesuffle.trs	324	338	328	330.0	Failure
typed-shuffle.trs	196	189	231	205.3	Failure
typed-subtrees.raml.trs	82	79	102	87.6	Failure

Folder: ./doc/examples/infeasible/

Example	1 [ms]	2 [ms]	3 [ms]	Avg	RetVal
mult1.trs	72	75	77	74.6	Failure
mult2.trs	80	87	83	83.3	Failure
multiplication.trs	86	72	83	80.3	Failure
typed-clevermmult.raml.trs	2844	2599	2631	2691.3	Failure
typed-cube.trs	121	78	117	105.3	Failure
typed-exp2.trs	151	155	131	145.6	Failure
typed-mult2.trs	80	80	94	84.6	Failure
typed-mult.trs	79	89	77	81.6	Failure
typed-prod2.trs	140	151	148	146.3	Failure
typed-quicksort.trs	964	982	1076	1007.3	Failure
typed-square.trs	124	74	72	90.0	Failure
typed-tadd2.trs	163	166	134	154.3	Failure
typed-tadd.trs	126	134	169	143.0	Failure

2.1.2 Quadratic

```
$ sh runscript.sh -v2 -m2
```

```
Folder: ./doc/examples/linear/
```

Example	1 [ms]	2 [ms]	3 [ms]	Avg	RetVal
addition.trs	52	52	53	52.3	Success
append.trs	93	81	85	86.3	Success
id.trs	67	64	81	70.6	Success
list.trs	170	184	152	168.6	Success
minus.trs	61	53	49	54.3	Success
queue.trs	926	900	933	919.6	Success
quotient.trs	234	200	214	216.0	Success
reverse.trs	96	96	94	95.3	Success
typed-div.trs	301	352	385	346.0	Success
typed-flatten.trs	223	203	212	212.6	Success
typed-jones1.trs	91	100	120	103.6	Success
typed-jones2.trs	68	92	79	79.6	Success
typed-jones4.trs	123	117	169	136.3	Success
typed-jones6.trs	254	229	260	247.6	Success
typed-rationalPotential.raml.trs	213	210	225	216.0	Success

```
Folder: ./doc/examples/quadratic/
```

Example	1 [ms]	2 [ms]	3 [ms]	Avg	RetVal
exp.trs	1352	1386	1336	1358.0	Failure
infeasible.trs	113	126	106	115.0	Failure
mult3.trs	156	165	132	151.0	Success
pairsp.trs	1288	1345	1301	1311.3	Failure
reverse.trs	214	200	204	206.0	Success
typed-appendAll.raml.trs	594	626	600	606.6	Failure
typed-bits.trs	5662	5575	5644	5627.0	Failure
typed-dcquad.trs	2129	2505	2121	2251.6	Failure
typed-exp.trs	1350	1339	1379	1356.0	Failure
typed-isort.trs	497	511	462	490.0	Success
typed-jones5.trs	279	344	323	315.3	Failure
typed-lcs-safe.trs	10226	10204	10391	10273.6	Failure
typed-lcs.trs	7476	7446	7569	7497.0	Failure
typed-minsort.raml.trs	60004	60003	60003	60003.3	Timeout
typed-pairs.trs	576	606	442	541.3	Success
typed-qbf.trs	4007	3959	3903	3956.3	Failure
typed-quad.trs	276	339	268	294.3	Failure
typed-quicksort-nat.trs	4625	4616	4622	4621.0	Failure
typed-reverse.trs	262	230	232	241.3	Success
typed-sat.trs	2171	2070	2033	2091.3	Success
typed-shufflesuffle.trs	12504	12742	12561	12602.3	Failure
typed-shuffle.trs	1682	1664	1866	1737.3	Failure
typed-subtrees.raml.trs	853	857	890	866.6	Failure

Folder: ./doc/examples/infeasible/

Example	1 [ms]	2 [ms]	3 [ms]	Avg	RetVal
mult1.trs	143	147	161	150.3	Failure
mult2.trs	164	171	170	168.3	Failure
multiplication.trs	176	151	173	166.6	Failure
typed-clevermmult.raml.trs	7521	7332	7471	7441.3	Failure
typed-cube.trs	157	150	196	167.6	Failure
typed-exp2.trs	312	283	289	294.6	Failure
typed-mult2.trs	155	156	158	156.3	Failure
typed-mult.trs	164	142	151	152.3	Failure
typed-prod2.trs	296	292	292	293.3	Failure
typed-quicksort.trs	4334	4454	4308	4365.3	Failure
typed-square.trs	163	149	184	165.3	Failure
typed-tadd2.trs	322	344	317	327.6	Failure
typed-tadd.trs	265	275	291	277.0	Failure

2.1.3 Cubic

```
$ stack build && sh runscript.sh -v3 -m3 ; printf "  
Folder: ./doc/examples/linear/
```

Example	1 [ms]	2 [ms]	3 [ms]	Avg	RetVal
addition.trs	105	126	121	117.3	Success
append.trs	184	247	159	196.6	Success
id.trs	110	120	109	113.0	Success
list.trs	434	398	395	409.0	Success
minus.trs	107	128	127	120.6	Success
queue.trs	2452	2432	2455	2446.3	Success
quotient.trs	469	461	573	501.0	Success
reverse.trs	195	226	177	199.3	Success
typed-div.trs	496	474	491	487.0	Success
typed-flatten.trs	389	405	395	396.3	Success
typed-jones1.trs	165	172	180	172.3	Success
typed-jones2.trs	158	132	115	135.0	Success
typed-jones4.trs	248	211	225	228.0	Success
typed-jones6.trs	540	490	470	500.0	Success
typed-rationalPotential.raml.trs	483	482	481	482.0	Success

Folder: ./doc/examples/quadratic/

Example	1 [ms]	2 [ms]	3 [ms]	Avg	RetVal
exp.trs	11071	11319	11252	11214.0	Failure
infeasible.trs	201	177	201	193.0	Failure
mult3.trs	260	389	281	310.0	Success
pairsp.trs	1340	1455	1360	1385.0	Success
reverse.trs	651	803	693	715.6	Success
typed-appendAll.raml.trs	799	854	747	800.0	Failure
typed-bits.trs	60003	60002	60003	60002.6	Timeout
typed-dcquad.trs	18503	18447	18411	18453.6	Failure
typed-exp.trs	10679	10759	10609	10682.3	Failure
typed-isort.trs	1079	1105	1129	1104.3	Success
typed-jones5.trs	983	1017	953	984.3	Failure
typed-lcs-safe.trs	60005	60005	60004	60004.6	Timeout
typed-lcs.trs	60004	60004	60004	60004.0	Timeout
typed-minsort.raml.trs	60004	60004	60004	60004.0	Timeout
typed-pairs.trs	1018	953	954	975.0	Success
typed-qbf.trs	9287	9324	9250	9287.0	Failure
typed-quad.trs	3606	3447	3432	3495.0	Failure
typed-quicksort-nat.trs	60005	60003	60003	60003.6	Timeout
typed-reverse.trs	511	535	533	526.3	Success
typed-sat.trs	5347	5315	5389	5350.3	Success
typed-shufflesuffle.trs	60002	60003	60003	60002.6	Timeout
typed-shuffle.trs	52301	52730	52814	52615.0	Failure
typed-subtrees.raml.trs	7026	7264	7056	7115.3	Failure

Folder: ./doc/examples/infeasible/

Example	1 [ms]	2 [ms]	3 [ms]	Avg	RetVal
mult1.trs	268	311	261	280.0	Failure
mult2.trs	246	280	265	263.6	Failure
multiplication.trs	255	246	267	256.0	Failure
typed-clevermmult.raml.trs	11297	11114	11480	11297.0	Failure
typed-cube.trs	262	247	273	260.6	Failure
typed-exp2.trs	534	573	568	558.3	Failure
typed-mult2.trs	267	249	269	261.6	Failure
typed-mult.trs	260	284	263	269.0	Failure
typed-prod2.trs	503	520	542	521.6	Failure
typed-quicksort.trs	21544	21341	21474	21453.0	Failure
typed-square.trs	268	253	250	257.0	Failure
typed-tadd2.trs	671	665	656	664.0	Failure
typed-tadd.trs	591	616	625	610.6	Failure

3 Without Additional Constraints

3.1 Small Example DB

3.1.1 Linear

\$ sh runscript.sh -v1 -m1

Example	1 [ms]	2 [ms]	3 [ms]	Avg	RetVal
addition.trs	99	69	37	68.3	Success
append.trs	55	61	93	69.6	Success
id.trs	63	52	38	51.0	Success
list.trs	127	120	126	124.3	Success
minus.trs	43	54	64	53.6	Success
queue.trs	410	395	399	401.3	Success
quotient.trs	156	112	105	124.3	Success
reverse.trs	94	74	75	81.0	Success
typed-div.trs	158	138	109	135.0	Success
typed-flatten.trs	132	112	127	123.6	Success
typed-jones1.trs	45	50	76	57.0	Success
typed-jones2.trs	45	33	35	37.6	Success
typed-jones4.trs	95	91	96	94.0	Success
typed-jones6.trs	139	143	148	143.3	Success
typed-rationalPotential.raml.trs	145	177	232	184.6	Success

Folder: ./doc/examples/quadratic/

Example	1 [ms]	2 [ms]	3 [ms]	Avg	RetVal
exp.trs	126	194	158	159.3	Failure
infeasible.trs	78	72	91	80.3	Failure
mult3.trs	86	125	85	98.6	Failure
pairsp.trs	218	209	193	206.6	Failure
reverse.trs	170	140	138	149.3	Failure
typed-appendAll.raml.trs	110	122	97	109.6	Failure
typed-bits.trs	379	422	391	397.3	Failure
typed-dcquad.trs	227	219	190	212.0	Failure
typed-exp.trs	129	107	129	121.6	Failure
typed-isort.trs	231	231	249	237.0	Failure
typed-jones5.trs	144	152	95	130.3	Failure
typed-lcs-safe.trs	4077	3993	3920	3996.6	Failure
typed-lcs.trs	3119	3131	3231	3160.3	Failure
typed-minsort.raml.trs	740	736	731	735.6	Failure
typed-pairs.trs	204	175	206	195.0	Failure
typed-qbf.trs	2703	2619	2569	2630.3	Failure
typed-quad.trs	159	133	133	141.6	Failure
typed-quicksort-nat.trs	407	380	377	388.0	Failure
typed-reverse.trs	142	249	159	183.3	Failure
typed-sat.trs	674	618	713	668.3	Failure
typed-shufflesuffle.trs	450	445	419	438.0	Failure
typed-shuffle.trs	263	263	281	269.0	Failure
typed-subtrees.raml.trs	137	93	98	109.3	Failure

Folder: ./doc/examples/infeasible/

Example	1 [ms]	2 [ms]	3 [ms]	Avg	RetVal
mult1.trs	91	95	83	89.6	Failure
mult2.trs	97	107	74	92.6	Failure
multiplication.trs	102	114	94	103.3	Failure
typed-clevermmult.raml.trs	2062	2061	2049	2057.3	Failure
typed-cube.trs	101	95	154	116.6	Failure
typed-exp2.trs	175	185	151	170.3	Failure
typed-mult2.trs	100	147	131	126.0	Failure
typed-mult.trs	112	125	147	128.0	Failure
typed-prod2.trs	164	212	181	185.6	Failure
typed-quicksort.trs	1441	1398	1446	1428.3	Failure
typed-square.trs	143	147	101	130.3	Failure
typed-tadd2.trs	182	172	331	228.3	Failure
typed-tadd.trs	493	165	142	266.6	Failure

3.1.2 Quadratic

```
$ stack build && sh runscript.sh -v2 -m2 ; printf "Folder: ./doc/examples/linear/"
```

Example	1 [ms]	2 [ms]	3 [ms]	Avg	RetVal
addition.trs	110	85	75	90.0	Success
append.trs	119	114	105	112.6	Success
id.trs	86	108	94	96.0	Success
list.trs	242	241	242	241.6	Success
minus.trs	86	106	84	92.0	Success
queue.trs	1071	1278	1119	1156.0	Success
quotient.trs	291	255	268	271.3	Success
reverse.trs	208	110	126	148.0	Success
typed-div.trs	285	325	296	302.0	Success
typed-flatten.trs	271	276	242	263.0	Success
typed-jones1.trs	101	119	168	129.3	Success
typed-jones2.trs	70	92	92	84.6	Success
typed-jones4.trs	165	169	159	164.3	Success
typed-jones6.trs	276	324	285	295.0	Success
typed-rationalPotential.raml.trs	306	291	330	309.0	Success

Folder: ./doc/examples/quadratic/

Example	1 [ms]	2 [ms]	3 [ms]	Avg	RetVal
exp.trs	1316	1377	1372	1355.0	Failure
infeasible.trs	127	137	113	125.6	Failure
mult3.trs	176	174	165	171.6	Success
pairsp.trs	1142	1137	1166	1148.3	Failure
reverse.trs	279	297	331	302.3	Success
typed-appendAll.raml.trs	683	615	618	638.6	Failure
typed-bits.trs	4628	4707	4678	4671.0	Failure
typed-dcquad.trs	2735	2767	2757	2753.0	Failure
typed-exp.trs	1346	1341	1347	1344.6	Failure
typed-isort.trs	645	631	595	623.6	Success
typed-jones5.trs	357	377	325	353.0	Failure
typed-lcs-safe.trs	60004	-	-	60004.00	Timeout
typed-lcs.trs	37522	36572	35810	36634.6	Failure
typed-minsort.raml.trs	668432	-	-	668432.00	Timeout
typed-pairs.trs	492	497	479	489.3	Success
typed-qbf.trs	5339	5006	5076	5140.3	Failure
typed-quad.trs	368	344	333	348.3	Failure
typed-quicksort-nat.trs	9327	9385	9374	9362.0	Failure
typed-reverse.trs	308	276	263	282.3	Success
typed-sat.trs	2394	2385	2486	2421.6	Success
typed-shufflesuffle.trs	17892	17870	17936	17899.3	Failure
typed-shuffle.trs	4449	4503	4458	4470.0	Failure
typed-subtrees.raml.trs	1599	1609	1575	1594.3	Failure

Folder: ./doc/examples/infeasible/

Example	1 [ms]	2 [ms]	3 [ms]	Avg	RetVal
mult1.trs	162	166	224	184.0	Failure
mult2.trs	191	153	180	174.6	Failure
multiplication.trs	191	187	184	187.3	Failure
typed-clevermmult.raml.trs	4198	4182	4304	4228.0	Failure
typed-cube.trs	153	169	197	173.0	Failure
typed-exp2.trs	323	339	338	333.3	Failure
typed-mult2.trs	228	211	186	208.3	Failure
typed-mult.trs	162	200	157	173.0	Failure
typed-prod2.trs	306	307	371	328.0	Failure
typed-quicksort.trs	5759	5657	5642	5686.0	Failure
typed-square.trs	150	194	158	167.3	Failure
typed-tadd2.trs	360	346	352	352.6	Failure
typed-tadd.trs	368	309	296	324.3	Failure

3.1.3 Cubic