SOGA: Inference of Probabilistic Programs by Second-order Gaussian Approximation Reproducibility Report

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Table 3: Evaluation of *SOGA*'s runtimes for programs with increasing number of iterations (*it.*). For each model we report: number of paths in the program (*paths*), the number of components of the output distribution (*C*), *SOGA* runtime (*time*) and the relative error with respect to PSI results (|%e|).

it.	paths	DiscreteRW			ContinuousRW			Bernoulli		
		C	time	|%e|	C	time	|%e|	C	time	|%e|
1	2	2	0.02	0	2	0.05	0	4	0.07	0.00
3	8	8	0.03	0	8	0.11	0	16	0.17	0.00
5	32	32	0.04	0	32	0.19	0	64	0.34	0.00
7	128	128	0.08	0	128	0.33	0	256	0.96	4.55
9	512	512	0.21	0	512	0.95	0	1024	3.49	5.56
11	2048	2048	0.63	0	2048	3.38	0	-	to	-
13	8192	8192	2.49	0	8192	13.54	0	-	to	-
15	32768	32768	9.70	0	-	to	-	-	to	-

it.	paths	ClinicalTrial			CoinBias			SurveyUnbias		
		C	time	|%e|	C	time	|%e|	C	time	|%e|
1	2	12	0.13	0.00	-	to	-	8	0.13	0.00
3	8	48	0.27	0.00	-	to	-	32	0.23	0.00
5	32	192	0.78	2.17	-	to	-	128	0.57	0.00
7	128	767	2.70	0.00	-	to	-	511	1.88	1.49
9	512	-	to	-	-	to	-	1948	6.97	0.00
11	2048	-	to	-	-	to	-	-	to	-
13	8192	-	to	-	-	to	-	-	to	-
15	32768	-	to	-	-	to	-	-	to	-