Assignment 2
High Performance Scientific Computing (CD61002)

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September 2023

Table 1: Numerical Results

Simulation	Method	ω	Required iteration step to reach tolerance of 10^{-6}	Required time(s)
fem100	SOR	1.4797	31	0.001695
	SD	—	153	0.004328
	MR	—	140	0.004025
	CG	—	25	0.000744
	BICGSTAB	—	15	0.000917
fem1000	SOR	1.7931	86	0.216979
	SD	—	1176	3.008135
	MR	—	1004	2.571952
	CG	—	68	0.176921
	BICGSTAB	—	44	0.231625
fem10000	SOR	1.9278	242	57.489668
	SD	—	11247	2996.9314
	MR	—	7210	1843.7805
	CG	—	191	46.778330
	BICGSTAB	—	114	55.929893
fdm100	SOR	1.5249	33	0.001001
	SD	—	176	0.005010
	MR	—	166	0.005010
	CG	—	25	0.000667
	BICGSTAB	—	18	0.000928
fdm1000	SOR	1.8246	98	0.234506
	SD	—	1396	3.375537
	MR	—	1276	3.086056
	CG	—	72	0.177377
	BICGSTAB	—	50	0.247304
fdm10000	SOR	1.9407	282	77.755732
	SD	—	9884	2499.2181
	MR	—	8720	2277.2706
	CG	—	213	53.438465
	BICGSTAB	—	114	61.854149