jacobi_serial.c

Δεδομένα / Διεργασίες	1
840x840	0.837
1680x1680	3.337
3360x3360	13.336
6720x6720	53.336
13440x13440	213.313
26880x26880	853.351

jacobi_parallelMPI.c *χωρίς έλεγχο σύγκλισης*

Δεδομένα / Διεργασίες	4	9	16	25	36	49	64	81
840x840	0.2123	0.1011	0.0614	0.0417	0.0309	0.0149	0.0133	0.2390
1680x1680	0.8485	0.3879	0.2232	0.1474	0.1061	0.0794	0.0632	0.3504
3360x3360	3.4361	1.5492	0.8667	0.5634	0.3969	0.2934	0.2263	0.4031
6720x6720	13.7054	6.1047	3.5120	2.2723	1.5800	1.1355	0.8896	1.1557
13440x13440	54.6918	25.2845	13.9821	9.1395	6.3659	4.6189	3.5966	4.9310
26880x26880	218.9884	101.0094	54.7369	35.7554	24.4175	18.6409	14.0959	15.2773
53760x53760	calloc error							

jacobi_parallelMPI.c *με έλεγχο σύγκλισης*

Δεδομένα / Διεργασίες	4	9	16	25	36	49	64	81
840x840	0.2238	0.1224	0.0717	0.0627	0.0507	0.0361	0.0309	1.2610
1680x1680	0.8596	0.4111	0.2414	0.1680	0.1268	0.1042	0.0779	1.4073
3360x3360	3.4364	1.5966	0.8901	0.5965	0.4265	0.3246	0.2499	1.6888
6720x6720	13.7074	6.2493	3.4840	2.7256	1.9154	1.1720	0.9308	2.7810
13440x13440	54.7452	24.8390	13.7677	11.7529	7.2481	5.7090	4.7761	8.5652
26880x26880	218.8858	99.2157	54.8529	36.5235	24.5691	18.7625	15.0295	27.3828
53760x53760	calloc error							

challenge

Δεδομένα / Διεργασίες	4	9	16	25	36	49	64	80	81
840x840	0.2269	0.1482	0.1191	0.1131	0.1137	0.1242	0.1036	0.1091	2.0620
1680x1680	0.8712	0.5402	0.4044	0.3405	0.3208	0.3024	0.3082	0.2960	2.3076
3360x3360	3.4307	2.0652	1.4848	1.2318	1.1067	1.0169	0.9587	0.9305	3.0466
6720x6720	13.6688	8.1214	5.7891	4.7502	4.2086	3.9028	3.7265	3.6153	6.7273
13440x13440	54.6224	32.3494	23.0162	18.7543	16.6099	15.2751	14.5511	14.1385	19.4838
26880x26880	-	129.1244	91.6442	74.6849	65.9425	61.0236	(*)	(**)	(***)

(**) μου έβγαλε output -> 64 total processes failed to start

(**) μου έβγαλε output -> 80 total processes failed to start

(***) μου έβγαλε output -> 81 total processes failed to start

Metrics για jacobi_parallelMPI.c χωρίς έλεγχο σύγκλισης									
$S = T_{serial} / T_{parallel}$									
Speedup	1	4	9	16	25	36	49	64	81
840x840	1	3.9425	8.2789	13.6319	20.0719	27.0874	56.1745	62.9323	3.5021
1680x1680	1	3.9328	8.6027	14.9507	22.6391	31.4515	42.0277	52.8006	9.5234
3360x3360	1	3.8811	8.6083	15.3871	23.6706	33.6004	45.4533	58.9306	33.0836
6720x6720	1	3.8916	8.7369	15.1868	23.4723	33.7570	46.9714	59.9550	46.1504
13440x13440	1	3.9003	8.4365	15.2561	23.3397	33.5087	46.1826	59.3096	43.2596
26880x26880	1	3.8968	8.4482	15.5900	23.8664	34.9483	45.7784	60.5390	55.8574
53760x53760	calloc error								

$E = S / p$									
Efficiency	1	4	9	16	25	36	49	64	81
840x840	1	0.99	0.92	0.85	0.80	0.75	1.15	0.98	0.04
1680x1680	1	0.98	0.96	0.93	0.91	0.87	0.86	0.83	0.12
3360x3360	1	0.97	0.96	0.96	0.95	0.93	0.93	0.92	0.41
6720x6720	1	0.97	0.97	0.95	0.94	0.94	0.96	0.94	0.57
13440x13440	1	0.98	0.94	0.95	0.93	0.93	0.94	0.93	0.53
26880x26880	1	0.97	0.94	0.97	0.95	0.97	0.93	0.95	0.69
53760x53760	calloc error								

Metrics για challenge.c										
$S = T_{serial} / T_{parallel}$										
Speedup	1	4	9	16	25	36	49	64	80	81
840x840	1	3.6884	5.6466	7.0283	7.3986	7.3628	6.7418	8.0823	7.6733	0.4059
1680x1680	1	3.8303	6.1771	8.2521	9.8017	10.4024	11.0365	10.8260	11.2725	1.4461
3360x3360	1	3.8872	6.4574	8.9819	10.8266	12.0508	13.1140	13.9112	14.3327	4.3774
6720x6720	1	3.9020	6.5673	9.2132	11.2283	12.6730	13.6661	14.3128	14.7527	7.9283
13440x13440	1	3.9052	6.5940	9.2680	11.3741	12.8425	13.9648	14.6596	15.0874	10.9483
26880x26880	1	-	6.6088	9.3116	11.4260	12.9408	13.9840	-	-	-

$E = S / p$										
Efficiency	1	4	9	16	25	36	49	64	80	81
840x840	1	0.92	0.63	0.44	0.30	0.20	0.14	0.13	0.10	0.01
1680x1680	1	0.96	0.69	0.52	0.39	0.29	0.23	0.17	0.14	0.02
3360x3360	1	0.97	0.72	0.56	0.43	0.33	0.27	0.22	0.18	0.05
6720x6720	1	0.98	0.73	0.58	0.45	0.35	0.28	0.22	0.18	0.10
13440x13440	1	0.98	0.73	0.58	0.45	0.36	0.29	0.23	0.19	0.14
26880x26880	1	-	0.73	0.58	0.46	0.36	0.29	-	-	-