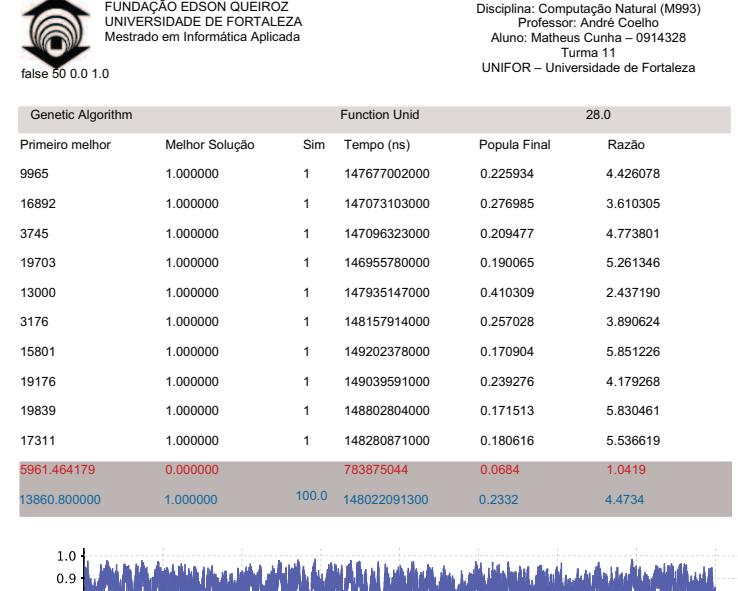




Genetic Algorithm		binario		12.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Pop Inicial
6	12.000000	1	64922098	12.000000	5.860000
7	12.000000	1	26741939	12.000000	6.260000
5	12.000000	1	28960970	12.000000	5.720000
9	12.000000	1	21121115	12.000000	5.880000
7	12.000000	1	18146488	12.000000	5.660000
7	12.000000	1	17627476	12.000000	5.840000
2	12.000000	1	17312430	12.000000	5.880000
34	12.000000	1	17940142	12.000000	5.780000
5	12.000000	1	17285411	12.000000	5.960000
4	12.000000	1	25620788	12.000000	6.200000
8.662563	0.000000		13764023	0.0000	0.1826
8.600000	12.000000	100.0	25567885	12.0000	5.9040
Genetic Algorithm		binario		108.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Pop Inicial
72	89.000000	0	102008389	88.920000	55.440000
94	87.000000	0	78361603	87.000000	54.020000
93	91.000000	0	78424369	90.360000	52.680000
86	88.000000	0	79028396	87.440000	54.380000
93	90.000000	0	79229209	90.000000	53.740000
96	84.000000	0	84961422	84.000000	54.160000
88	88.000000	0	79468773	87.160000	54.340000
88	88.000000	0	79500449	87.820000	53.720000
99	90.000000	0	102567027	89.060000	54.000000
99	91.000000	0	126619898	89.500000	53.220000
7.573638	2.009975		15446206	1.7800	0.6962
90.800000	88.600000	0.0	89016953	88.1260	53.9700
Genetic Algorithm		binario		1200.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Pop Inicial

98	704.000000	0	993704881	703.200000	600.920000
98	714.000000	0	1123479058	713.340000	599.120000
97	699.000000	0	1308212890	698.040000	597.780000
97	718.000000	0	978026496	718.000000	603.940000
100	712.000000	0	920330189	710.580000	598.500000
98	714.000000	0	1129721276	713.120000	605.520000
96	688.000000	0	1002961499	687.260000	598.640000
98	681.000000	0	1032980828	681.000000	594.620000
96	693.000000	0	910927146	693.000000	599.260000
99	709.000000	0	947546271	708.080000	601.440000
1.187434	11.872658		115593557	11.7135	2.9699
97.700000	703.200000	0.0	1034789053	702.5620	599.9740
Iterated Hill Climbing Standard		binario		12.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Pop Inicial
920	11.000000	0	8996132	null	null
3138	11.000000	0	3633245	null	null
4310	12.000000	1	4005347	null	null
1700	11.000000	0	2753249	null	null
150	11.000000	0	5029422	null	null
70	12.000000	1	189465	null	null
70	12.000000	1	81915	null	null
70	12.000000	1	83238	null	null
70	12.000000	1	82948	null	null
70	12.000000	1	78000	null	null
1450.457914	0.489988		2845107	null	null
1056.800000	11.600000	60.0	2493296	null	null
Iterated Hill Climbing Standard		binario		108.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Pop Inicial
3400	70.000000	0	13142356	null	null
1350	69.000000	0	13808881	null	null
2780	68.000000	0	13291976	null	null
120	71.000000	0	12775216	null	null
320	67.000000	0	12371850	null	null
4550	68.000000	0	12942877	null	null

4160	69.000000	0	9465803	null	null
1400	70.000000	0	9895029	null	null
2770	76.000000	0	9189594	null	null
4515	68.000000	0	9532899	null	null
1578.467691	2.416609		1772803	null	null
2536.500000	69.600000	0.0	11641648	null	null
Iterated Hill Climbing Standard		binario		1200.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Pop Inicial
4980	649.000000	0	109554922	null	null
3410	647.000000	0	109272065	null	null
3630	661.000000	0	110228549	null	null
4690	647.000000	0	111965405	null	null
210	665.000000	0	117927409	null	null
700	655.000000	0	139715833	null	null
2590	652.000000	0	142220539	null	null
2400	663.000000	0	144389515	null	null
3270	653.000000	0	140631466	null	null
130	663.000000	0	139446226	null	null
1663.174375	6.621933		14975181	null	null
2601.000000	655.500000	0.0	126535192	null	null



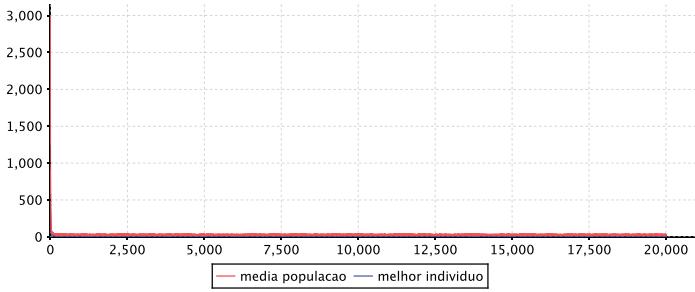


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false 50 0.0 1.0

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Genetic Algorithm			Function Rosenbrock			29.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
212	23.250352	0	159365726000	31.093154	0.747764	
12452	12.813624	0	159201088000	23.054620	0.555794	
15322	16.926654	0	159658731000	31.620351	0.535309	
17231	18.775968	0	159646795000	33.568186	0.559338	
15052	51.936032	0	159630582000	30.962334	1.677394	
14998	23.666707	0	159667371000	37.290629	0.634656	
4309	41.765853	0	159797548000	28.476345	1.466686	
19125	38.178728	0	159499485000	39.015285	0.978558	
6736	28.426561	0	159735313000	31.425668	0.904565	
13685	15.643965	0	158711815000	28.373131	0.551365	
5798.723477	12.211200		310418744	4.3012	0.3934	
11912.200000	27.138445	0.0	159491445400	31.4880	0.8956	

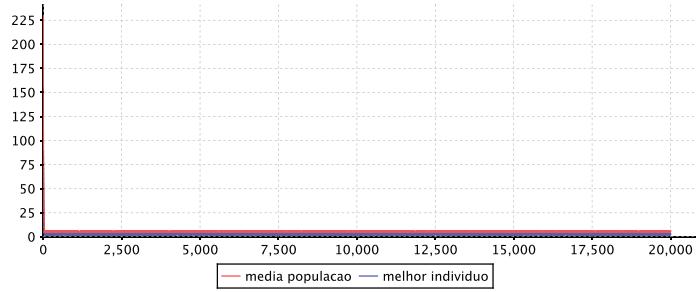


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Genetic Algorithm			Function Griewank			30.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
8859	6.693309	0	579703732000	6.077732	1.101284	
2357	6.436516	0	578862276000	5.253935	1.225085	
13609	6.639319	0	580038713000	7.125879	0.931719	
17161	7.255056	0	580407045000	6.682311	1.085711	
5955	6.421346	0	580420705000	5.850938	1.097490	
12913	4.489206	0	581652637000	5.840879	0.768584	
12004	6.220290	0	580842080000	4.650083	1.337673	
6161	6.414454	0	580647595000	5.824355	1.101316	
807	4.422109	0	580841153000	4.978419	0.888256	
16130	10.807690	0	579745018000	6.377668	1.694615	
5367.275085	1.660599		732082364	0.7214	0.1635	
9595.600000	6.579929	0.0	580316095400	5.8662	1.0597	

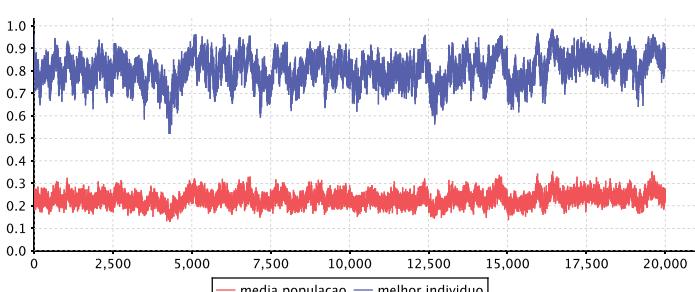


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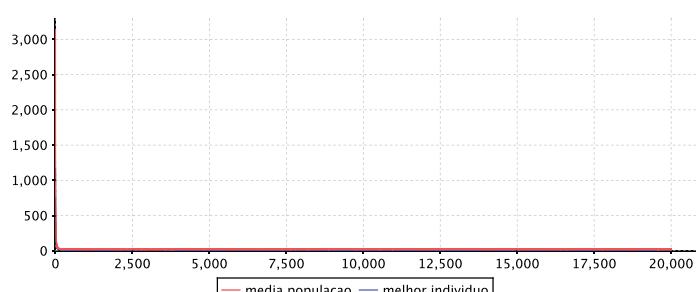
Genetic Algorithm			Function Unid			22.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
16880	1.000000	1	124451393000	0.427177	2.340949	
7467	1.000000	1	124557288000	0.242576	4.122416	
15703	1.000000	1	124876080000	0.370334	2.700266	
5446	1.000000	1	124790475000	0.112515	8.887700	
8128	1.000000	1	124707932000	0.221577	4.513102	
19634	1.000000	1	124845548000	0.315001	3.174591	
8435	1.000000	1	125039218000	0.341135	2.931390	
12214	1.000000	1	124910766000	0.132017	7.574759	
12038	1.000000	1	124843181000	0.153660	6.507892	
11996	1.000000	1	124899132000	0.233681	4.279347	
4320.098227	0.000000		166561760	0.1007	2.2220	
11794.100000	1.000000	100.0	124792101300	0.2550	4.7503	



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Genetic Algorithm			Function Rosenbrock			23.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
14183	20.896609	0	149483486000	20.041739	1.042654	
7537	14.749623	0	148677732000	17.715612	0.832578	
7834	15.708863	0	149333245000	26.922674	0.583481	
11848	23.430505	0	152103075000	13.947654	1.679889	
19028	20.568659	0	151612215000	28.264606	0.727718	
17814	10.920709	0	148630617000	13.546706	0.806152	
13766	11.986849	0	148745560000	13.859350	0.864893	
2020	11.999034	0	149277654000	14.686860	0.816991	
14479	14.917495	0	149196901000	15.352520	0.971664	
15341	16.530099	0	149079960000	15.925002	1.037997	
4937.636337	4.009779		0	5.1469	0.2943	
12385.000000	16.170844	0.0	149614044500	18.0263	0.9251	



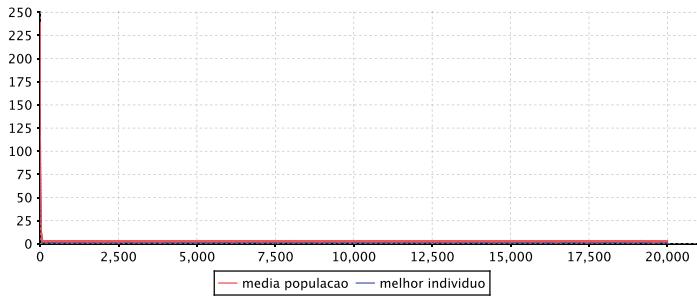


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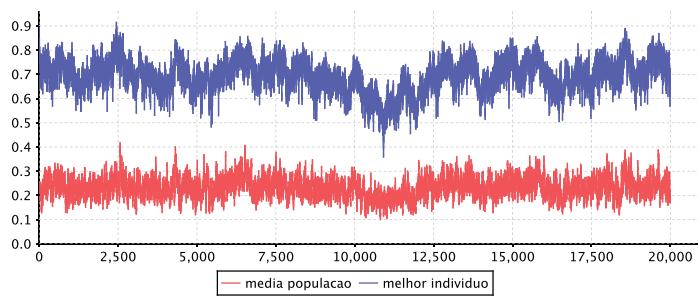
Genetic Algorithm			Function Griewank			24.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão		
8232	2.061892	0	539890057000	2.694648	0.765181		
8450	1.876726	0	544065549000	2.261004	0.830041		
16183	2.884367	0	544796365000	3.186041	0.905314		
3789	3.234097	0	544008289000	3.297840	0.980671		
1133	1.720154	0	543903679000	2.449253	0.702318		
6569	2.043975	0	544404710000	3.363605	0.607674		
6244	3.489328	0	543819750000	2.780893	1.254751		
13945	4.328975	0	544008388000	3.717188	1.164583		
7347	5.443176	0	544013975000	2.737192	1.988598		
14319	3.066281	0	544708539000	3.586132	0.855039		
4572.514220	1.128665	0	0.4661	0.3945			
8621.100000	3.014897	0.0	543761930100	3.0074	1.0221		



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false 50 0.75 0.1

Genetic Algorithm			Function Unid			4.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão		
19406	1.000000	1	126105074000	0.195358	5.118798		
9805	1.000000	1	127156731000	0.113091	8.842421		
711	1.000000	1	126561813000	0.605748	1.650852		
13735	1.000000	1	126616118000	0.114677	8.720158		
14137	1.000000	1	126384247000	0.070912	14.101946		
4723	1.000000	1	126072194000	0.312622	3.198755		
16508	1.000000	1	126176291000	0.092086	10.859468		
17874	1.000000	1	126410778000	0.127945	7.815881		
6310	1.000000	1	126226135000	0.106082	9.426663		
2798	1.000000	1	126006507000	0.475010	2.105220		
6324.069450	0.000000		326706935	0.1748	3.6485		
10600.700000	1.000000	100.0	126371588800	0.2214	7.7483		

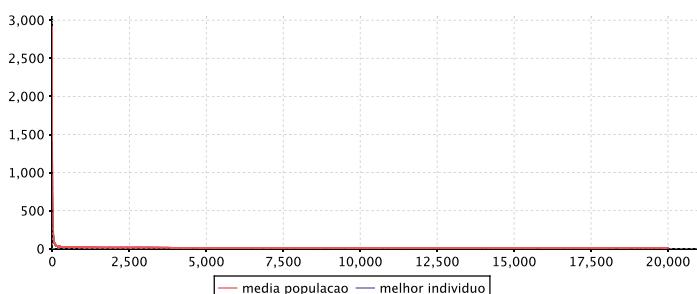


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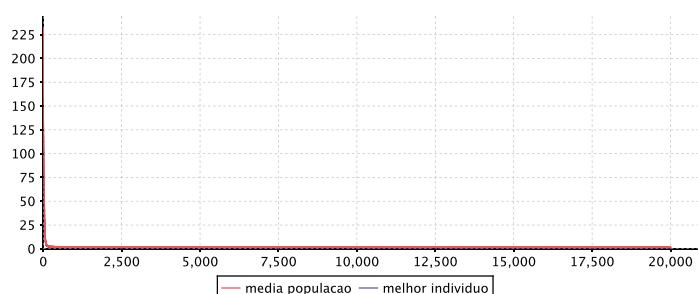
Genetic Algorithm			Function Rosenbrock			5.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão		
18971	9.983454	0	138924061000	10.489958	0.951715		
10551	7.814913	0	138302545000	7.861347	0.994093		
19703	8.980109	0	139312613000	8.905074	1.008426		
18676	7.935290	0	137527417000	8.316559	0.954155		
11787	7.931773	0	137081796000	8.017307	0.989331		
15506	7.544632	0	140735638000	7.883255	0.957045		
19449	7.760869	0	138098939000	8.054965	0.963489		
17252	13.526552	0	138463293000	9.857476	1.372212		
7093	9.856178	0	139045190000	10.554621	0.933826		
13591	7.639374	0	136882205000	8.168224	0.935255		
4128.909576	1.768300		1089583325	1.0288	0.1287		
15257.900000	8.897314	0.0	138437369700	8.8109	1.0138		



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Genetic Algorithm			Function Griewank			6.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão		
1966	1.754244	0	568858475000	1.784243	0.983187		
1021	1.749070	0	568770809000	1.804547	0.969257		
15623	1.948098	0	568610929000	2.010688	0.968871		
19147	1.562222	0	565199097000	1.833683	0.851959		
10806	1.603828	0	567834435000	1.765113	0.908626		
6916	1.875626	0	565626450000	1.912005	0.980973		
3692	1.801816	0	564065786000	1.751349	1.028816		
13606	0.970762	0	557078472000	0.983825	0.986721		
7409	1.973271	0	565232435000	1.850138	1.066553		
2093	1.832848	0	568480575000	1.849574	0.990957		
6010.313410	0.275671		1187771176	0.2669	0.0587		
8227.900000	1.707178	0.0	565975746300	1.7545	0.9717		



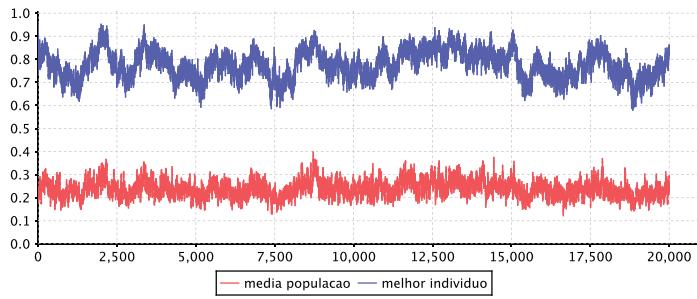


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Genetic Algorithm			Function Unid			10.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão		
9403	1.000000	1	252182000000	0.354152	2.823643		
10319	1.000000	1	248833197000	0.164252	6.088212		
19582	1.000000	1	248364873000	0.290228	3.445570		
2836	1.000000	1	249373793000	0.298175	3.353732		
17717	1.000000	1	247989330000	0.174549	5.729050		
5682	1.000000	1	250326736000	0.090326	11.070978		
16297	1.000000	1	250083944000	0.573204	1.744581		
7708	1.000000	1	248688687000	0.222810	4.488126		
15713	1.000000	1	252027155000	0.462594	2.161721		
17229	1.000000	1	249229967000	0.345679	2.892861		
5486.649856	0.000000		218825749	0.1379	2.6975		
12248.600000	1.000000	100.0	249709968200	0.2976	4.5451		

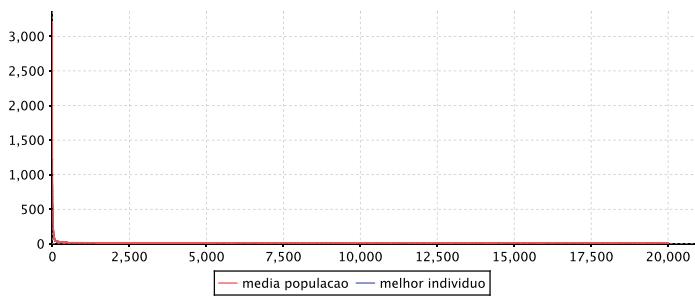


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Genetic Algorithm			Function Rosenbrock			11.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão		
16689	37.180703	0	251667560000	8.118770	4.579598		
19847	9.262329	0	242474293000	8.519456	1.087197		
4131	5.789159	0	243289566000	6.426741	0.900792		
19676	6.199309	0	243321055000	7.067072	0.877210		
18247	7.955336	0	245808498000	8.679268	0.916591		
16852	5.863231	0	240720981000	6.369346	0.920539		
16661	8.013250	0	240501440000	8.466636	0.946450		
17458	7.904945	0	240860625000	8.553084	0.924222		
15913	8.101152	0	240931337000	8.431629	0.960805		
18079	3.690217	0	249164860000	5.461844	0.675636		
4255.176778	9.189994	0	1.1125	1.1447			
16355.300000	9.995963	0.0	243874021500	7.6094	1.3459		

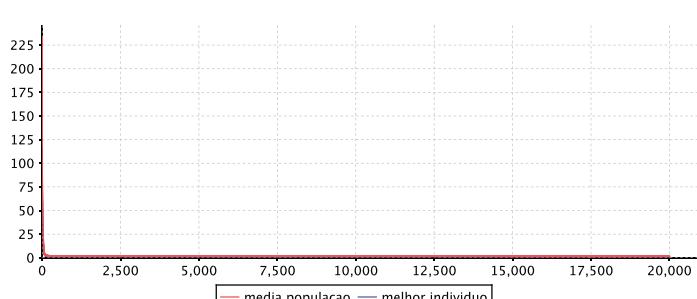


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false 100 0.75 0.1

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Genetic Algorithm			Function Griewank			12.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão		
19306	0.889956	0	890916991000	1.108675	0.802720		
10128	1.405382	0	892483170000	1.765536	0.796009		
15648	1.979674	0	894837977000	2.062886	0.959663		
13585	1.872662	0	890550638000	1.860265	1.006664		
17890	0.808886	0	875980277000	0.972286	0.831942		
10679	2.722818	0	894336398000	2.081120	1.308343		
17400	1.948692	0	893603182000	2.029878	0.960004		
5410	2.070474	0	866141581000	1.231251	1.681603		
2449	1.817900	0	892164269000	1.956367	0.929222		
10600	2.571472	0	892175376000	2.033512	1.264547		
5234.033707	0.595428	0	0.4112	0.2725			
12309.500000	1.808792	0.0	888318985900	1.7102	1.0307		

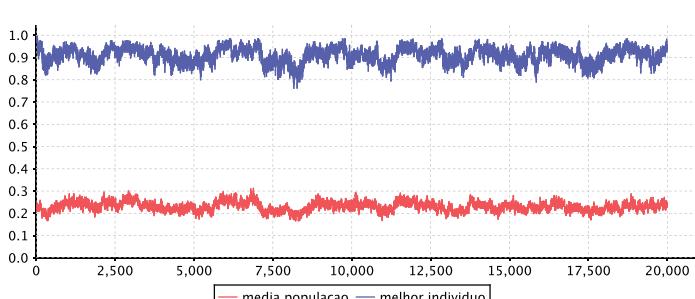


FUNDAÇÃO EDSON QUEIROZ  
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Mestrado em Informática Aplicada

false 500 0.75 0.1

Disciplina: Computação Natural (M993)  
Professor: André Coelho  
Aluno: Matheus Cunha – 0914328  
Turma 11  
UNIFOR – Universidade de Fortaleza

Genetic Algorithm			Function Unid			16.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão		
11645	1.000000	1	1282387782000	0.166107	6.020204		
19676	1.000000	1	1280040271000	0.326206	3.065544		
9338	1.000000	1	1276179359000	0.172082	5.811174		
16388	1.000000	1	1279445861000	0.250890	3.985808		
19870	1.000000	1	1271673798000	0.122700	8.149961		
16438	1.000000	1	1278117284000	0.207439	4.820683		
5514	1.000000	1	1272994290000	0.246214	4.061501		
19735	1.000000	1	1280101842000	0.365807	2.733683		
10355	1.000000	1	1297702231000	0.162128	6.167968		
8837	1.000000	1	1270173116000	0.276612	3.615174		
4999.597848	0.000000		995413647	0.0739	1.6262		
13779.600000	1.000000	100.0	1278881583400	0.2296	4.9796		



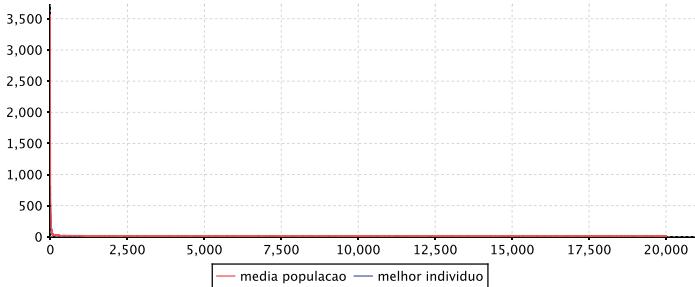


FUNDAÇÃO EDSON QUEIROZ  
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false 500 0.75 0.1

Disciplina: Computação Natural (M993)  
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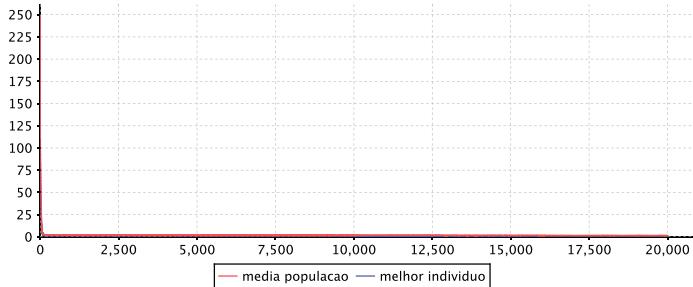
Genetic Algorithm			Function Rosenbrock			17.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
17431	8.128848	0	1399123751000	8.838914	0.919666	
5153	8.844234	0	1443134235000	11.235785	0.787149	
18500	3.957654	0	1489074838000	5.886013	0.672383	
13813	10.300000	0	1435510965000	10.317968	0.998259	
3819	11.897648	0	1420517520000	11.332923	1.049830	
19888	4.887539	0	1494667544000	7.871416	0.620922	
19085	19.128757	0	1431879066000	7.114454	2.688717	
14205	6.831578	0	1427005943000	8.148240	0.838411	
15415	7.491401	0	1395837574000	8.712367	0.859858	
19747	7.668345	0	1395538817000	8.157674	0.940016	
5519.041714	4.055557	0	1.6637	0.5946		
14705.600000	8.913600	0.0	1433229025300	8.7616	1.0484	



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false 500 0.75 0.1

Genetic Algorithm			Function Griewank			18.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
19829	0.939565	0	5811164575000	1.003864	0.935949	
6532	0.976801	0	5687716141000	1.101282	0.886967	
18747	1.875851	0	5827329468000	1.953635	0.960185	
15406	1.926046	0	5800397476000	1.156710	1.665106	
18480	0.985814	0	5656243803000	1.161629	0.848647	
17720	2.166991	0	5785912097000	0.912072	2.375898	
12107	0.916962	0	5824855398000	1.018943	0.899915	
18094	0.925945	0	5804167292000	1.087500	0.851444	
8169	1.378765	0	5910994650000	1.756624	0.784895	
19313	4.857783	0	5826898818000	1.116001	4.352847	
4582.721507	1.148838		615615913	0.3252	0.5047	
15439.700000	1.695052	0.0	5793567971800	1.2268	1.1343	

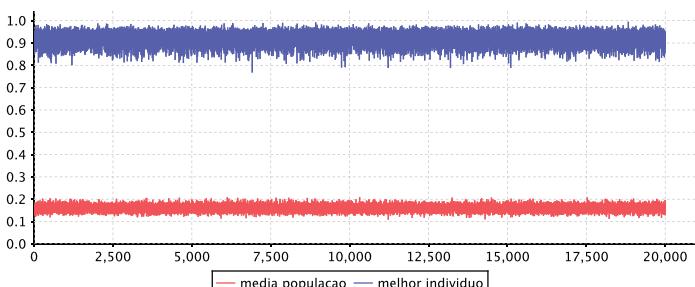


FUNDAÇÃO EDSON QUEIROZ  
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true 50 0.0 1.0

Disciplina: Computação Natural (M993)  
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Genetic Algorithm			Function Unid			25.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
13254	1.000000	1	159045658000	0.092285	10.835996	
7914	1.000000	1	157684671000	0.096621	10.349742	
1050	1.000000	1	159301271000	0.160969	6.212367	
11256	1.000000	1	160622888000	0.099693	10.030841	
16726	1.000000	1	160856011000	0.150026	6.665508	
5798	1.000000	1	161114713000	0.139274	7.180111	
6320	1.000000	1	159689260000	0.199810	5.004748	
3391	1.000000	1	159278562000	0.218919	4.567902	
5929	1.000000	1	160711529000	0.204815	4.882461	
19104	1.000000	1	160648955000	0.199313	5.017234	
5546.367366	0.000000	0	0.0461	2.3438		
9074.200000	1.000000	100.0	159895351800	0.1562	7.3033	

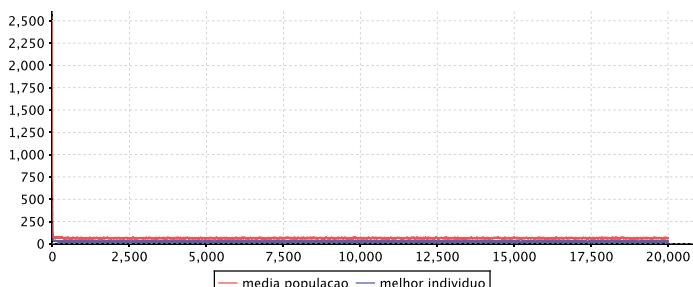


FUNDAÇÃO EDSON QUEIROZ  
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true 50 0.0 1.0

Disciplina: Computação Natural (M993)  
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Genetic Algorithm			Function Rosenbrock			26.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
2859	27.355645	0	138682488000	59.101387	0.462860	
462	19.252477	0	138869520000	69.557928	0.276783	
4037	22.596796	0	138158970000	71.242401	0.317182	
12915	19.767032	0	137587898000	58.247570	0.339362	
219	20.684242	0	137481477000	67.234833	0.307642	
12363	30.361881	0	137216780000	81.854711	0.370924	
15406	18.071788	0	137398231000	68.026599	0.265658	
6283	32.518472	0	137176154000	61.873996	0.525560	
1078	16.144217	0	137254615000	50.795991	0.317825	
12145	18.137781	0	137668050000	50.590846	0.358519	
5573.338803	5.348934		581203919	9.1889	0.0819	
6776.700000	22.489033	0.0	137749418300	63.8526	0.3538	



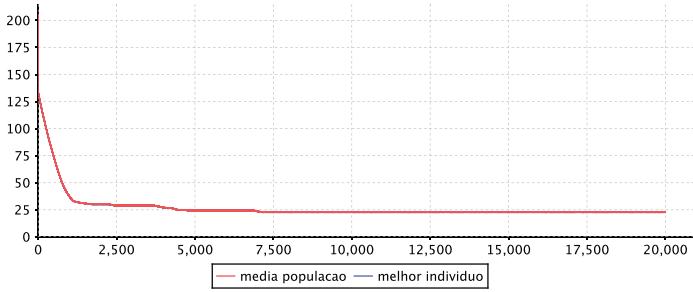


FUNDAÇÃO EDSON QUEIROZ  
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true 50 0.0 1.0

Disciplina: Computação Natural (M993)  
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Genetic Algorithm			Function Griewank			27.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
10566	24.553163	0	555432555000	24.619987	0.997286	
4114	31.329406	0	557320662000	31.383481	0.998277	
6444	23.040959	0	558740334000	23.089264	0.997908	
7138	34.034066	0	553420374000	34.084373	0.998524	
12496	18.634363	0	557291255000	18.697989	0.996597	
17953	22.192395	0	555603234000	22.267644	0.996621	
15881	7.346582	0	550879470000	7.412497	0.991108	
10806	18.936074	0	556420595000	18.977265	0.997829	
13349	18.586827	0	555279202000	18.655140	0.996338	
8262	28.564687	0	557075647000	28.653829	0.996889	
4121.181759	7.242015		742743784	7.2412	0.0021	
10700.900000	22.721852	0.0	555746332800	22.7841	0.9967	

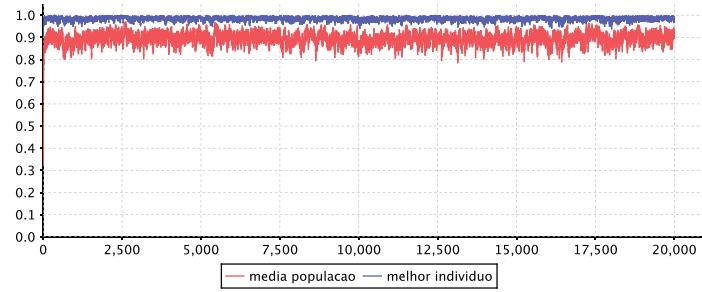


FUNDAÇÃO EDSON QUEIROZ  
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true 50 0.25 0.5

Disciplina: Computação Natural (M993)  
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Genetic Algorithm			Function Unid			19.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
404	1.000000	1	115236150000	0.912422	1.095984	
9990	1.000000	1	114313019000	0.930304	1.074918	
11788	1.000000	1	114212640000	0.902104	1.108520	
10981	1.000000	1	114633836000	0.843760	1.185171	
12516	1.000000	1	114159515000	0.974438	1.026232	
9195	1.000000	1	114285162000	0.977596	1.022917	
12666	1.000000	1	114330911000	0.845585	1.182613	
5262	1.000000	1	113960079000	0.956409	1.045578	
9282	1.000000	1	114380840000	0.876349	1.141098	
10141	1.000000	1	113983441000	0.834973	1.197643	
3567.456300	0.000000		348463197	0.0514	0.0585	
9222.500000	1.000000	100.0	114349559300	0.9054	1.0981	

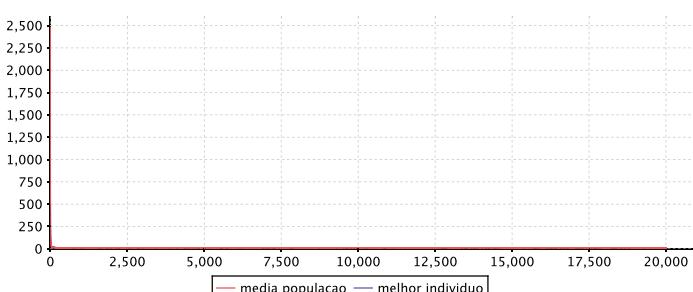


FUNDAÇÃO EDSON QUEIROZ  
UNIVERSIDADE DE FORTALEZA  
Mestrado em Informática Aplicada

true 50 0.25 0.5

Disciplina: Computação Natural (M993)  
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Genetic Algorithm			Function Rosenbrock			20.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
17072	4.808643	0	137700973000	4.815791	0.998516	
19283	6.344003	0	136618776000	6.673108	0.950682	
19335	7.089779	0	138191216000	7.110828	0.997040	
19836	6.431908	0	138983704000	6.887709	0.933824	
19550	6.333493	0	137986343000	6.480380	0.977333	
18536	0.162006	0	146716504000	0.182249	0.888926	
19513	6.792704	0	138500825000	6.894931	0.985174	
19432	6.205788	0	138583499000	6.234341	0.995420	
19747	6.740450	0	138036780000	6.745014	0.999323	
18799	5.788275	0	137747516000	5.815520	0.995315	
777.993066	1.930754		707650997	1.9731	0.0359	
19110.300000	5.669705	0.0	138906613600	5.7840	0.9696	

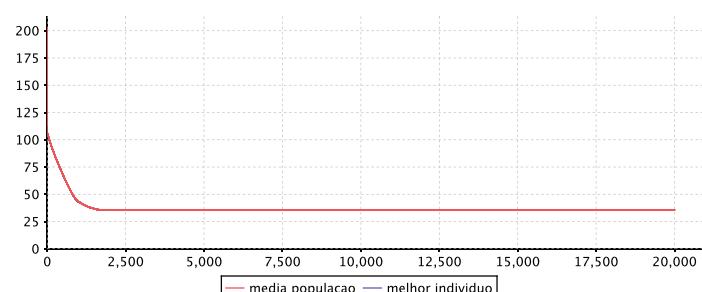


FUNDAÇÃO EDSON QUEIROZ  
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Mestrado em Informática Aplicada

true 50 0.25 0.5

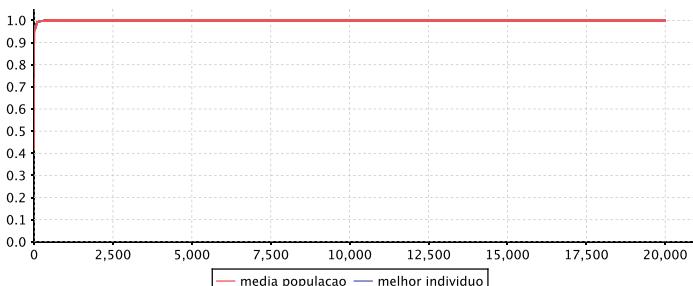
Disciplina: Computação Natural (M993)  
Professor: André Coelho  
Aluno: Matheus Cunha – 0914328  
Turma 11  
UNIFOR – Universidade de Fortaleza

Genetic Algorithm			Function Griewank			21.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
10176	16.863523	0	523782515000	16.863581	0.999997	
19822	73.564604	0	519651876000	73.564666	0.999999	
13714	16.601446	0	526669199000	16.601481	0.999998	
15661	21.285605	0	523858504000	21.286308	0.999967	
4820	45.496442	0	521966424000	45.496545	0.999998	
8103	19.615009	0	524797623000	19.615104	0.999995	
11325	44.909589	0	520733947000	44.909883	0.999993	
12994	24.692524	0	522183165000	24.692570	0.999998	
7430	56.266610	0	518228288000	56.266617	1.000000	
3083	39.229331	0	521617695000	39.229359	0.999999	
4825.588022	18.322003		902360926	18.3220	0.0000	
10712.800000	35.852469	0.0	522348923600	35.8526	1.0000	

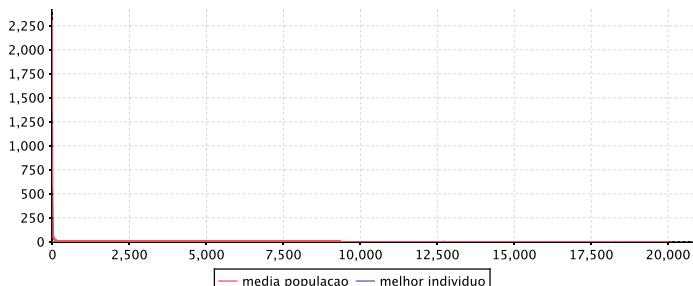




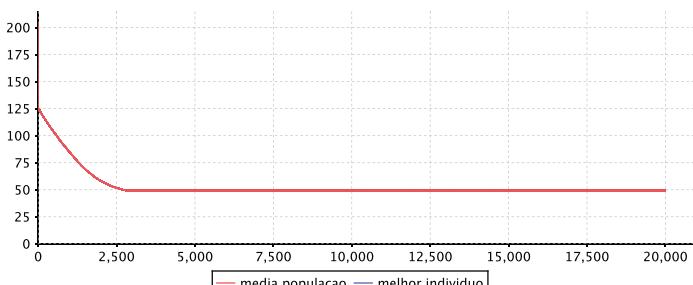
Genetic Algorithm			Function Unid			1.0		
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão			
17794	1.000000	1	126948859000	0.999999	1.000001			
16812	1.000000	1	121779518000	1.000000	1.000000			
17657	1.000000	1	121969362000	1.000000	1.000000			
18451	1.000000	1	118906866000	1.000000	1.000000			
8076	1.000000	1	121141735000	1.000000	1.000000			
18227	1.000000	1	126656043000	0.999998	1.000002			
3492	1.000000	1	125492729000	1.000000	1.000000			
1223	1.000000	1	125245811000	1.000000	1.000000			
10954	1.000000	1	123141308000	1.000000	1.000000			
11662	1.000000	1	126471477000	1.000000	1.000000			
6102.161728	0.000000		621032568	0.0000	0.0000			
12434.800000	1.000000	100.0	123775370800	1.0000	1.0000			



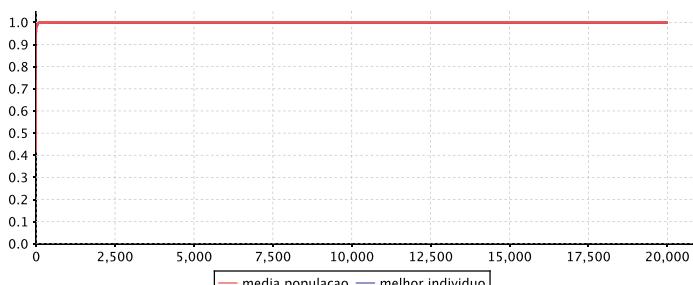
Genetic Algorithm			Function Rosenbrock			2.0		
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão			
19910	6.294389	0	138675387000	6.294389	1.000000			
19914	5.122499	0	137917114000	5.122499	1.000000			
19762	2.596299	0	142582336000	2.596299	1.000000			
19874	1.278930	0	144263466000	1.278930	1.000000			
19796	6.359915	0	138179584000	6.359915	1.000000			
19975	6.288229	0	139869668000	6.288229	1.000000			
19027	0.088803	0	145872497000	0.088803	1.000000			
19974	0.589182	0	142845633000	0.589182	1.000000			
19375	6.103237	0	137398711000	6.103237	1.000000			
19379	0.223152	0	147175506000	0.223152	1.000000			
307.491203	2.641357	0	2.6414	0.0000				
19698.600000	3.494463	0.0	141477990200	3.4945	1.0000			



Genetic Algorithm			Function Griewank			3.0		
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão			
16804	56.599676	0	548809529000	56.599676	1.000000			
19090	35.577423	0	551568900000	35.577423	1.000000			
18331	61.703549	0	553327754000	61.703549	1.000000			
14566	34.537090	0	555107101000	34.537090	1.000000			
19363	48.853839	0	547293541000	48.853839	1.000000			
19731	69.389492	0	545666649000	69.389492	1.000000			
15616	42.598461	0	549592738000	42.598461	1.000000			
17098	65.441054	0	546798039000	65.441054	1.000000			
19349	42.514917	0	555217849000	42.514917	1.000000			
18745	35.211877	0	550413032000	35.211877	1.000000			
1675.578232	12.518373		259230831	12.5184	0.0000			
17869.300000	49.242738	0.0	550379513200	49.2427	1.0000			

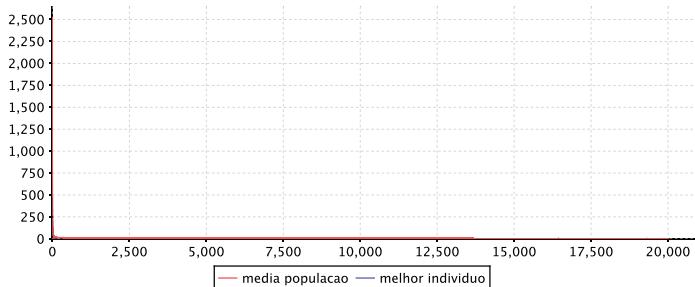


Genetic Algorithm			Function Unid			7.0		
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão			
1890	1.000000	1	235944527000	1.000000	1.000000			
17576	1.000000	1	244674100000	1.000000	1.000000			
17947	1.000000	1	246142510000	1.000000	1.000000			
7109	1.000000	1	295811949000	1.000000	1.000000			
16544	1.000000	1	243527224000	1.000000	1.000000			
18255	1.000000	1	237346542000	1.000000	1.000000			
13652	1.000000	1	237795935000	1.000000	1.000000			
5271	1.000000	1	237677821000	1.000000	1.000000			
18559	1.000000	1	231257846000	1.000000	1.000000			
8680	1.000000	1	247989466000	1.000000	1.000000			
5927.989744	0.000000		308280574	0.0000	0.0000			
12548.300000	1.000000	100.0	245816792000	1.0000	1.0000			

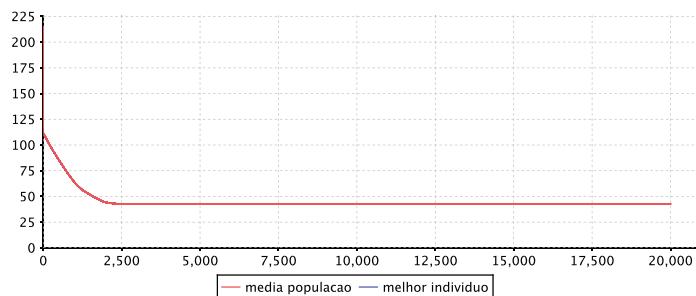




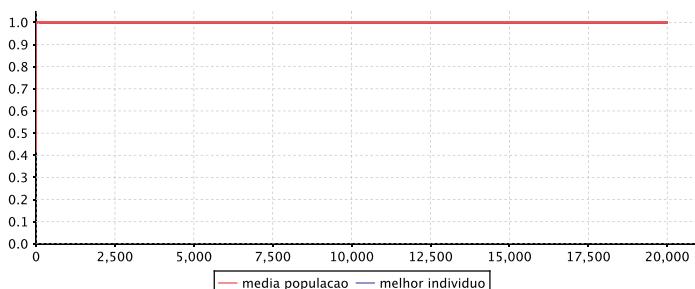
Genetic Algorithm			Function Rosenbrock			8.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
19844	5.668185	0	246458172000	5.668185	1.000000	
19964	5.635790	0	240879329000	5.635790	1.000000	
19762	5.730547	0	243859192000	5.730547	1.000000	
19965	4.404477	0	246057627000	4.411927	0.998311	
15992	0.149859	0	253759075000	0.149859	1.000000	
18278	0.017001	0	262107344000	0.017001	1.000000	
19925	3.709430	0	247549537000	3.709430	1.000000	
19951	5.766709	0	248109045000	5.766709	1.000000	
19975	1.668097	0	249104069000	1.668097	1.000000	
19790	5.493721	0	242897582000	5.493721	1.000000	
1219.430539	2.233185		641287820	2.2334	0.0005	
19344.600000	3.824382	0.0	248078097200	3.8251	0.9998	



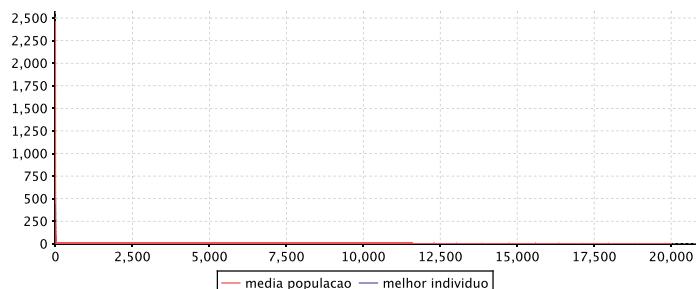
Genetic Algorithm			Function Griewank			9.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
19574	24.448686	0	863236531000	24.448686	1.000000	
18858	46.972673	0	863696528000	46.972673	1.000000	
18506	66.576515	0	844351484000	66.576515	1.000000	
17684	20.667527	0	867370020000	20.667527	1.000000	
19816	59.618517	0	852040214000	59.618517	1.000000	
19049	43.227633	0	876487579000	43.227633	1.000000	
19393	62.380202	0	841767292000	62.380202	1.000000	
19316	33.364398	0	895971788000	33.364398	1.000000	
18535	39.265300	0	856956469000	39.265300	1.000000	
18608	32.696837	0	1283378747000	32.696837	1.000000	
597.853736	15.097122	0		15.0971	0.0000	
18933.900000	42.921829	0.0	904525665200	42.9218	1.0000	



Genetic Algorithm			Function Unid			13.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
2696	1.000000	1	1310296138000	1.000000	1.000000	
6952	1.000000	1	1265150277000	1.000000	1.000000	
1900	1.000000	1	1184841067000	1.000000	1.000000	
10369	1.000000	1	1211977263000	1.000000	1.000000	
539	1.000000	1	1179447180000	1.000000	1.000000	
16776	1.000000	1	1204225235000	1.000000	1.000000	
7804	1.000000	1	1244407965000	1.000000	1.000000	
15785	1.000000	1	1200713026000	1.000000	1.000000	
735	1.000000	1	1296475417000	1.000000	1.000000	
15708	1.000000	1	1217945827000	1.000000	1.000000	
6144.278138	0.000000	0		0.0000	0.0000	
7926.400000	1.000000	100.0	1231547939500	1.0000	1.0000	



Genetic Algorithm			Function Rosenbrock			14.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
19987	2.364704	0	1410736587000	2.364704	1.000000	
19933	2.488905	0	1421598443000	2.488905	1.000000	
19993	2.754310	0	1399857250000	2.754310	1.000000	
19984	2.758778	0	1427840027000	2.758778	1.000000	
19979	0.458734	0	1443479081000	0.458734	1.000000	
19994	2.587279	0	1424942206000	2.592523	0.997977	
19999	2.303067	0	1438990170000	2.315055	0.994822	
19997	2.573907	0	1418818274000	2.573907	1.000000	
19974	2.564525	0	1412100523000	2.564525	1.000000	
19984	0.807144	0	1437785368000	0.807144	1.000000	
18.122914	0.782558			618983474	0.7831	0.0017
19982.400000	2.166135	0.0	1423614792900	2.1679	0.9992	





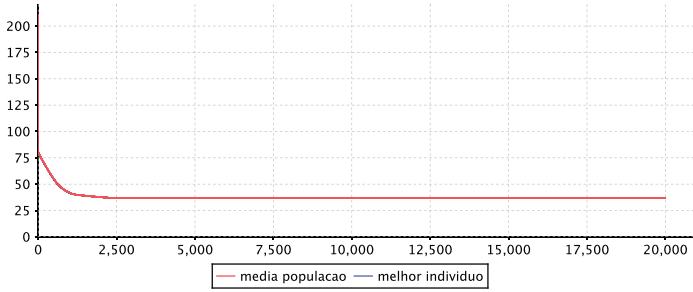
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true 500 0.75 0.1

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Aluno: Matheus Cunha – 0914328  
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Genetic Algorithm			Function Griewank			15.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
18419	38.758327	0	5521579498000	38.758327	1.000000	
17263	26.827274	0	5580773470000	26.827274	1.000000	
15654	39.780221	0	5526773064000	39.780221	1.000000	
19011	56.265288	0	5532359184000	56.265288	1.000000	
19722	53.437305	0	5566416348000	53.437305	1.000000	
19475	11.728350	0	5555311740000	11.728350	1.000000	
11073	36.920932	0	5569233995000	36.920932	1.000000	
18609	44.252034	0	5546660567000	44.252034	1.000000	
18076	25.369917	0	5499434783000	25.369917	1.000000	
19239	34.294882	0	5528227582000	34.294882	1.000000	
<b>2471.520077</b>	<b>12.605211</b>		<b>762641697</b>	<b>12.6052</b>	<b>0.0000</b>	
<b>17654.100000</b>	<b>36.763453</b>	<b>0.0</b>	<b>5542677023100</b>	<b>36.7635</b>	<b>1.0000</b>	

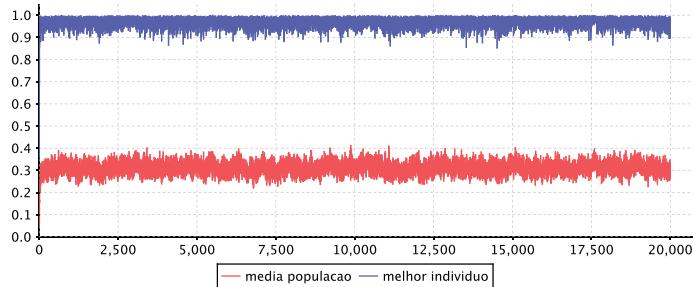


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false 20 0.5 0.5 1.0 1.0

Particle Swarm			Function Unid			18.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
10888	1.000000	1	18153957000	0.187646	5.329189	
7454	1.000000	1	18163314000	0.322048	3.105130	
16860	1.000000	1	18211773000	0.303376	3.296236	
15320	1.000000	1	18269930000	0.310638	3.219178	
6733	1.000000	1	18125345000	0.384372	2.601649	
4343	1.000000	1	18106958000	0.366329	2.729787	
18971	1.000000	1	18135161000	0.150891	6.627282	
18904	1.000000	1	18213685000	0.270398	3.698255	
3387	1.000000	1	18149448000	0.333368	2.999691	
6175	1.000000	1	18230433000	0.439936	2.273058	
<b>5790.223886</b>	<b>0.000000</b>		<b>49837787</b>	<b>0.0825</b>	<b>1.2736</b>	
<b>10903.500000</b>	<b>1.000000</b>	<b>100.0</b>	<b>18176000400</b>	<b>0.3069</b>	<b>3.7340</b>	

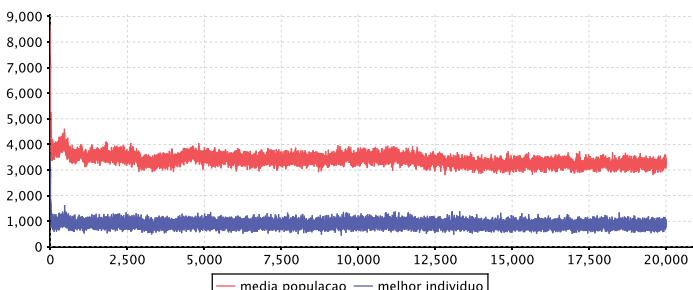


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Particle Swarm			Function Rosenbrock			19.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
13621	110.448269	0	30848044000	2511.343610	0.043980	
19628	45.759482	0	30834468000	4724.405530	0.009686	
12525	523.209226	0	30978391000	2539.996147	0.205988	
13827	90.732389	0	31007619000	2498.719152	0.036312	
9210	60.436452	0	30879636000	4439.725684	0.013613	
13111	60.940801	0	30644648000	4724.185822	0.012900	
12006	25.669869	0	31210570000	1880.465596	0.013651	
3931	66.764135	0	30737402000	4184.969728	0.015953	
12778	81.944847	0	30935133000	2098.806968	0.039044	
2626	92.287410	0	30913683000	3265.413567	0.028262	
<b>4716.918911</b>	<b>137.784832</b>		<b>146506915</b>	<b>1069.5053</b>	<b>0.0588</b>	
<b>11326.300000</b>	<b>115.819288</b>	<b>0.0</b>	<b>30898959400</b>	<b>3286.8032</b>	<b>0.0435</b>	

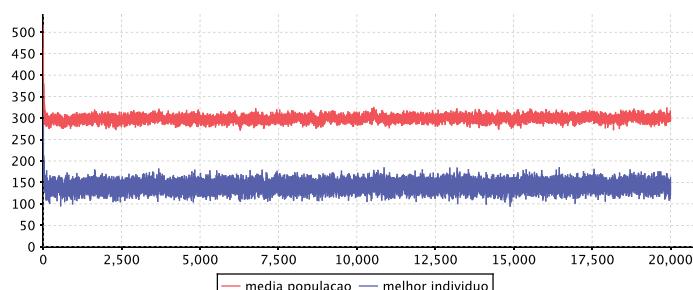


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false 20 0.5 0.5 1.0 1.0

Particle Swarm			Function Griewank			20.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
1015	13.716919	0	87468277000	324.181426	0.042312	
2474	9.113557	0	87554411000	274.906124	0.033152	
6319	14.602581	0	87493949000	309.768526	0.047140	
2418	17.546425	0	87852459000	293.289156	0.059826	
18573	16.770398	0	87657520000	310.457893	0.054018	
7299	19.483574	0	87697702000	302.538490	0.064400	
505	102.439771	0	87512837000	335.709911	0.305144	
2880	13.150218	0	87670169000	259.344317	0.050706	
14186	14.158128	0	87432777000	307.160459	0.046094	
8911	20.325989	0	87598854000	328.212212	0.061929	
<b>5685.942472</b>	<b>26.288170</b>		<b>121399823</b>	<b>22.4463</b>	<b>0.0807</b>	
<b>6458.000000</b>	<b>24.130756</b>	<b>0.0</b>	<b>87593895500</b>	<b>304.5569</b>	<b>0.0781</b>	



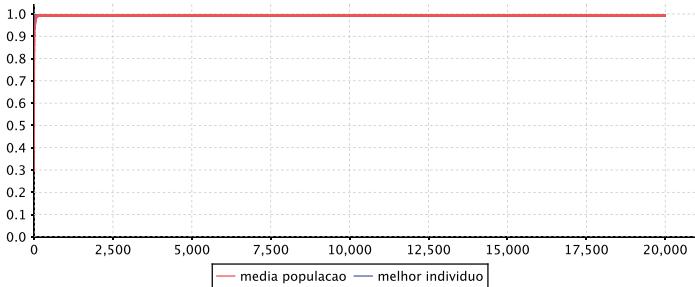


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false 20 2.05 2.05 0.01 0.01

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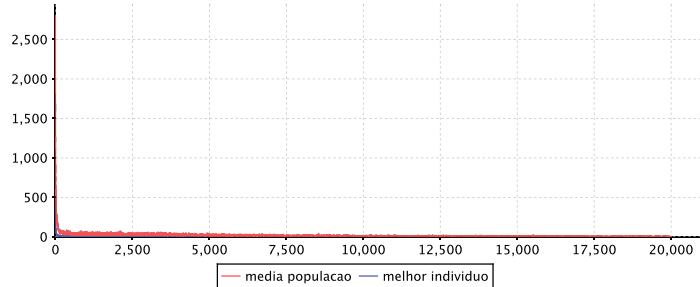
Particle Swarm			Function Unid			24.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
42	1.000000	1	11707968000	1.000000	1.000000	
48	1.000000	1	11699654000	1.000000	1.000000	
44	0.933979	0	17501117000	0.933979	1.000000	
42	1.000000	1	11604030000	1.000000	1.000000	
32	1.000000	1	12965835000	1.000000	1.000000	
26	1.000000	1	11407725000	1.000000	1.000000	
31	1.000000	1	12012445000	1.000000	1.000000	
37	1.000000	1	11504411000	1.000000	1.000000	
47	1.000000	1	12927435000	1.000000	1.000000	
52	1.000000	1	11395739000	1.000000	1.000000	
7.942921	0.019806		586963809	0.0198	0.0000	
40.100000	0.993398	90.0	12472635900	0.9934	1.0000	



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Particle Swarm			Function Rosenbrock			25.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
20000	0.000000	1	33270113000	0.009444	0.000000	
19999	0.000000	1	32670897000	0.019928	0.000000	
19999	0.000000	1	32978524000	0.003835	0.000000	
20000	0.000000	1	33340222000	0.000974	0.000000	
19999	0.000000	1	33205207000	0.000098	0.000000	
19999	0.000000	1	33129659000	6.815913	0.000000	
20000	3.986598	0	32718317000	3.987962	0.999658	
20000	0.000000	1	32911071000	0.002433	0.000000	
20000	0.000000	1	33046005000	0.006904	0.000000	
0.500000	1.195979		209287041	2.3414	0.3142	
19999.500000	0.398660	90.0	33031939600	1.4532	0.1111	

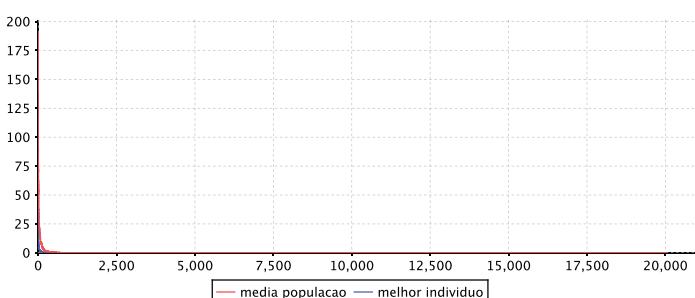


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false 20 2.05 2.05 0.01 0.01

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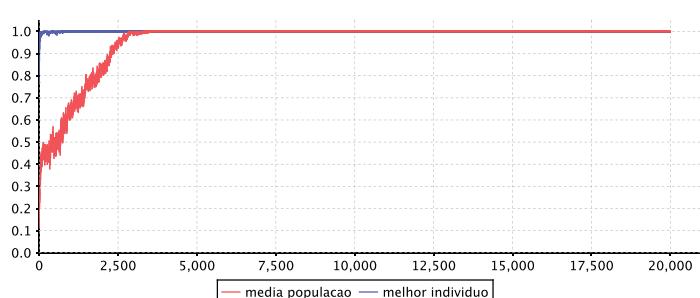
Particle Swarm			Function Griewank			26.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
1038	0.224183	0	62947028000	0.224183	1.000000	
1057	0.061531	0	38386804000	0.061531	1.000000	
1232	0.063890	0	42544026000	0.063890	1.000000	
1054	0.044278	0	42229046000	0.044278	1.000000	
923	0.061546	0	42073097000	0.061546	1.000000	
1016	0.009857	0	35577301000	0.009857	1.000000	
1037	0.189391	0	61942510000	0.189391	1.000000	
1139	0.123018	0	53619386000	0.123018	1.000000	
1163	0.118081	0	77864314000	0.118081	1.000000	
1015	0.091081	0	42967479000	0.091081	1.000000	
83.471193	0.063106	0	0.0631	0.0000		
1067.400000	0.098686	0.0	50015099100	0.0987	1.0000	



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false 20 2.05 2.05 0.9 0.1

Particle Swarm			Function Unid			27.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
1810	1.000000	1	14367003000	1.000000	1.000000	
2133	1.000000	1	12875263000	1.000000	1.000000	
1803	1.000000	1	14004584000	1.000000	1.000000	
1004	1.000000	1	13728584000	1.000000	1.000000	
1291	1.000000	1	14011058000	1.000000	1.000000	
1399	1.000000	1	13756658000	1.000000	1.000000	
1529	1.000000	1	13885862000	1.000000	1.000000	
2030	1.000000	1	13455153000	1.000000	1.000000	
1810	1.000000	1	12542847000	1.000000	1.000000	
1863	1.000000	1	12808902000	1.000000	1.000000	
334.446946	0.000000		574591744	0.0000	0.0000	
1667.200000	1.000000	100.0	13543591400	1.0000	1.0000	



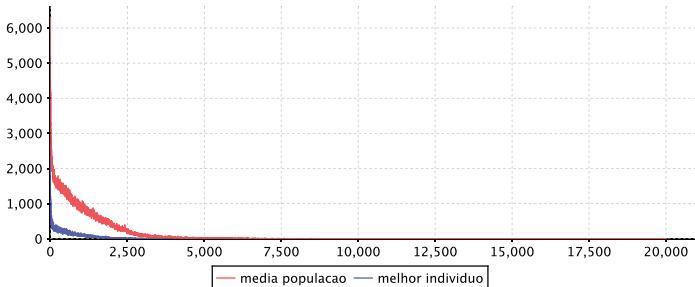


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false 20 2.05 2.05 0.9 0.1

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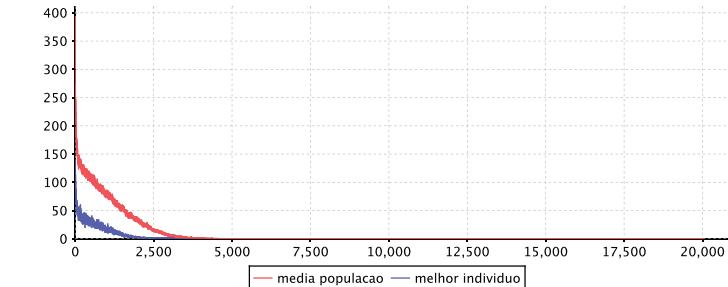
Particle Swarm			Function Rosenbrock			28.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
19999	0.000000	1	33638392000	0.000000	0.000000	
20000	0.000000	1	33472115000	0.000000	0.000000	
20000	0.000000	1	33486367000	0.000000	0.000000	
20000	3.986579	0	32673912000	3.986579	1.000000	
19999	0.000000	1	33236370000	0.000000	0.000000	
19999	0.000000	1	33064113000	0.000000	0.000000	
20000	0.000000	1	33026369000	0.000000	0.000000	
5269	0.235424	0	32884438000	0.235424	1.000000	
5179	0.235424	0	32611073000	0.235424	1.000000	
20000	0.000000	1	33200440000	0.000000	0.000000	
5910.284278	1.183926		327331249	1.1839	0.4714	
17044.500000	0.445743	70.0	33129358900	0.4457	0.3333	



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false 20 2.05 2.05 0.9 0.1

Particle Swarm			Function Griewank			29.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
5753	0.073828	0	56587601000	0.073828	1.000000	
5509	0.071295	0	66964224000	0.071295	1.000000	
5422	0.078674	0	60362560000	0.078674	1.000000	
5580	0.108197	0	76781749000	0.108197	1.000000	
5530	0.071349	0	60466779000	0.071349	1.000000	
5618	0.056643	0	56421211000	0.056643	1.000000	
5489	0.113220	0	62727180000	0.113220	1.000000	
5371	0.081202	0	60730667000	0.081202	1.000000	
5429	0.039311	0	46468257000	0.039311	1.000000	
5735	0.041768	0	47632709000	0.041768	1.000000	
122.236001	0.023102		0	0.0231	0.0000	
5543.600000	0.073549	0.0	59514293700	0.0735	1.0000	

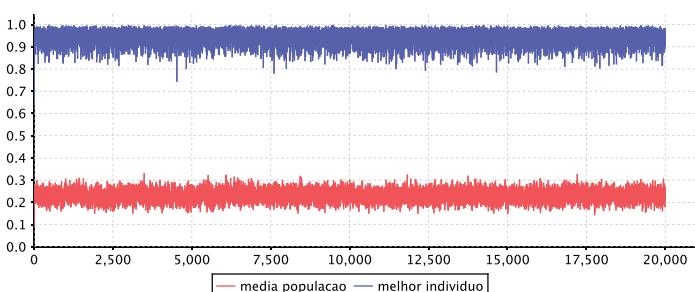


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false 20 2.05 2.05 1.0 1.0

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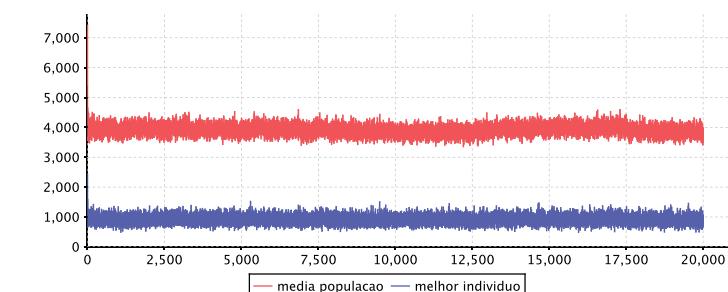
Particle Swarm			Function Unid			15.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
6504	1.000000	1	16849617000	0.232343	4.303990	
2807	1.000000	1	16787247000	0.192730	5.188611	
1970	1.000000	1	16985009000	0.312473	3.200274	
14564	1.000000	1	16914646000	0.450989	2.217350	
18748	1.000000	1	16935491000	0.283761	3.524089	
8509	1.000000	1	16956551000	0.134438	7.438373	
9444	1.000000	1	16969776000	0.258734	3.864978	
669	1.000000	1	17022471000	0.169910	5.885467	
4304	1.000000	1	16996324000	0.297692	3.359173	
14685	1.000000	1	17012768000	0.206680	4.838395	
5814.838110	0.000000		71085665	0.0854	1.5043	
8220.400000	1.000000	100.0	16942990000	0.2540	4.3314	



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false 20 2.05 2.05 1.0 1.0

Particle Swarm			Function Rosenbrock			16.0
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão	
13444	111.696925	0	31281448000	3320.817266	0.033635	
2208	120.268988	0	31126784000	3502.617041	0.034337	
5294	40.796260	0	30929912000	4015.331175	0.010160	
12841	39.100217	0	30987945000	4754.965388	0.008223	
1197	16.549475	0	30970890000	3697.768510	0.004476	
17553	125.781186	0	30880973000	2660.525828	0.047277	
7797	46.945153	0	30736180000	4286.419195	0.010952	
5490	43.540344	0	30782922000	3683.853218	0.011819	
14982	214.775965	0	30792254000	4047.753413	0.053061	
16538	49.089819	0	30733112000	5267.242825	0.009320	
5739.236695	57.872728		169117715	699.7442	0.0174	
9734.400000	80.854433	0.0	30922242000	3923.7294	0.0238	



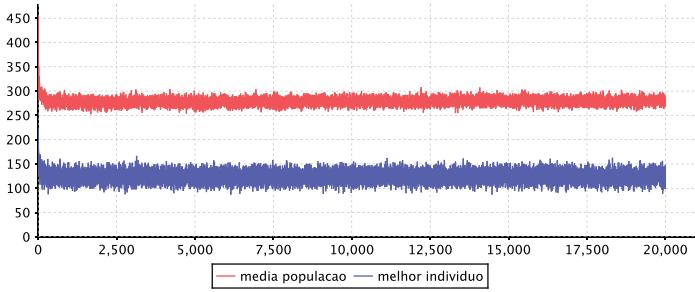


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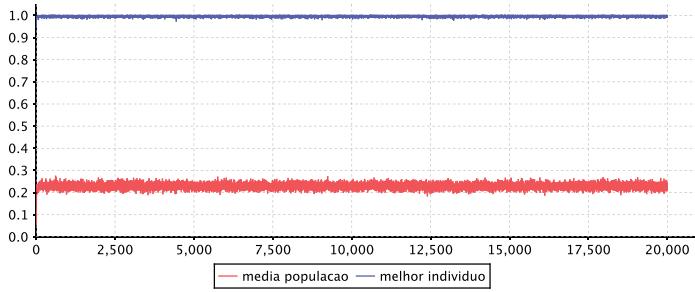
Particle Swarm			Function Griewank			17.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão		
2980	14.836215	0	83322047000	294.672825	0.050348		
7839	10.633859	0	83853729000	236.606064	0.044943		
5864	5.554272	0	83405810000	299.050439	0.018573		
392	13.381768	0	83772142000	245.259441	0.054562		
7598	95.385686	0	83794522000	379.163423	0.251569		
12870	9.528781	0	83614394000	233.990625	0.040723		
12003	9.873575	0	83517128000	273.769462	0.036065		
9439	95.964909	0	84156001000	309.199842	0.310365		
13195	3.247407	0	83383610000	289.604943	0.011213		
19223	13.224603	0	83753221000	287.920366	0.045931		
5192.153966	34.418285		245059900	40.5246	0.1034		
9140.300000	27.163108	0.0	83657260400	284.9237	0.0909		



FUNDAÇÃO EDSON QUEIROZ  
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false 100 2.05 2.05 1.0 1.0

Particle Swarm			Function Unid			21.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão		
8675	1.000000	1	83820758000	0.207030	4.830209		
2275	1.000000	1	83753301000	0.185251	5.398069		
701	1.000000	1	84678653000	0.260570	3.837742		
8697	1.000000	1	84382048000	0.271720	3.680254		
14222	1.000000	1	84687251000	0.211274	4.733180		
5548	1.000000	1	83904042000	0.205473	4.866828		
7909	1.000000	1	84145763000	0.231933	4.311598		
19192	1.000000	1	84686188000	0.150911	6.626413		
13574	1.000000	1	84778230000	0.192093	5.205807		
11977	1.000000	1	84971701000	0.268843	3.719640		
5362.517207	0.000000		421064036	0.0375	0.8351		
9277.000000	1.000000	100.0	84380793500	0.2185	4.8322		

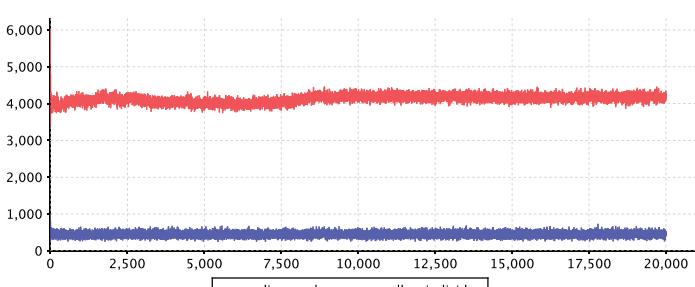


FUNDAÇÃO EDSON QUEIROZ  
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false 100 2.05 2.05 1.0 1.0

Disciplina: Computação Natural (M993)  
Professor: André Coelho  
Aluno: Matheus Cunha – 0914328  
Turma 11  
UNIFOR – Universidade de Fortaleza

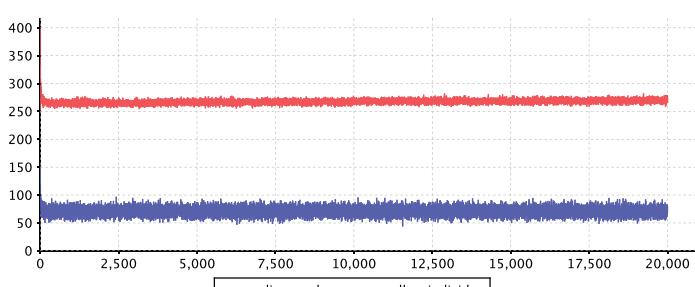
Particle Swarm			Function Rosenbrock			22.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão		
13691	23.403586	0	153705379000	4191.950416	0.005583		
7969	32.023108	0	153605659000	4094.115393	0.007822		
13404	31.181818	0	154016186000	4217.435835	0.007394		
1797	24.285377	0	154432748000	3834.127360	0.006334		
11955	29.847322	0	154264007000	3950.685169	0.007555		
8357	32.275422	0	153987474000	4123.672418	0.007827		
2452	22.004509	0	154318842000	4529.731174	0.004858		
10737	20.966579	0	153647456000	4328.860824	0.004843		
6347	14.724493	0	153886768000	4105.598400	0.003586		
8378	26.619267	0	153980275000	4139.959309	0.006430		
3929.342822	5.432319		271375189	181.0687	0.0015		
8508.700000	25.733148	0.0	153984479400	4151.6136	0.0062		



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false 100 2.05 2.05 1.0 1.0

Particle Swarm			Function Griewank			23.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão		
5115	6.094313	0	418020466000	268.615415	0.022688		
9999	3.906735	0	418569452000	274.004647	0.014258		
18484	4.229477	0	420419498000	282.838256	0.014954		
18594	5.310332	0	420416346000	283.322685	0.018743		
12552	7.136114	0	419282253000	286.477883	0.024910		
9651	6.574164	0	420405463000	267.444089	0.024581		
6087	6.471574	0	420472580000	290.461806	0.022280		
10010	7.293895	0	418197893000	274.194803	0.026601		
17885	3.811338	0	421809086000	269.205839	0.014158		
7187	5.909651	0	421970479000	267.876965	0.022061		
4873.467722	1.234993	0	8.1514	0.0046			
11556.400000	5.673759	0.0	419956351600	276.4442	0.0204		

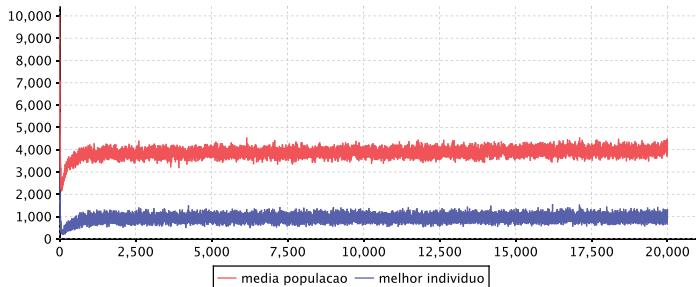




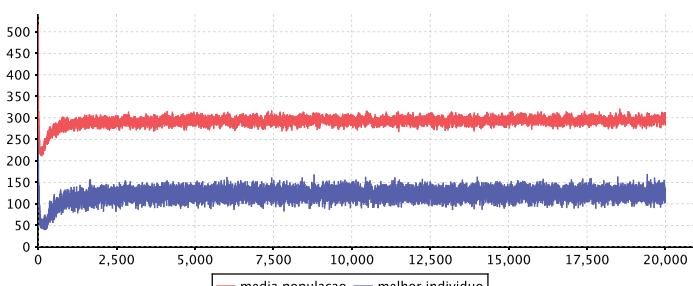
Particle Swarm		Function Unid		3.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão
1962	1.000000	1	18447598000	0.187742	5.326468
12267	1.000000	1	18478236000	0.321814	3.107388
4717	1.000000	1	18496236000	0.308019	3.246555
19276	1.000000	1	18509232000	0.311313	3.212203
10750	1.000000	1	18537370000	0.385270	2.595582
12551	1.000000	1	18551935000	0.372249	2.686372
18971	1.000000	1	18680996000	0.150685	6.636371
7439	1.000000	1	18526429000	0.270518	3.696608
2013	1.000000	1	18533091000	0.356367	2.806099
6175	1.000000	1	18527680000	0.439888	2.273306
5955.911273	0.000000		58644116	0.0840	1.2957
9612.100000	1.000000	100.0	18528880300	0.3104	3.7015



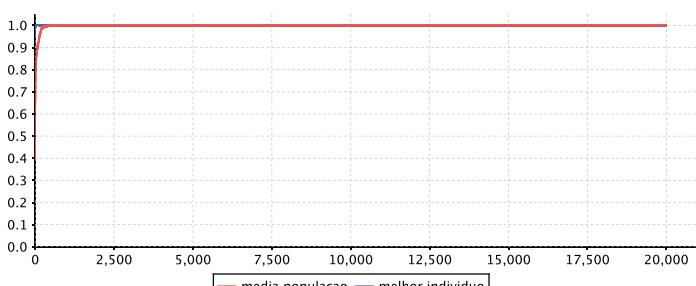
Particle Swarm		Function Rosenbrock		4.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão
226	79.786716	0	31308461000	4788.325462	0.016663
10775	70.238007	0	31255333000	4831.141049	0.014539
17139	46.264872	0	31427872000	3911.790758	0.011827
12269	70.191116	0	31118642000	4090.551773	0.017159
152	76.188404	0	31153750000	4598.453440	0.016568
17448	72.686436	0	31195018000	4531.373812	0.016041
387	67.717679	0	31162044000	4238.755989	0.015976
8396	54.686466	0	31261266000	3849.617318	0.014206
6517	55.820889	0	31233276000	4508.959114	0.012380
276	39.105473	0	31210147000	4141.166222	0.009443
6607.541286	12.832997		84453223	333.0496	0.0018
7358.500000	63.268606	0.0	31232580900	4349.0135	0.0150



Particle Swarm		Function Griewank		5.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão
17141	16.183041	0	88259604000	313.886588	0.051557
14464	11.961069	0	88049200000	299.364264	0.039955
77	12.519968	0	88507322000	312.520116	0.040061
11818	15.408804	0	88174504000	290.700501	0.053006
330	13.052933	0	88505240000	319.830294	0.040812
2042	14.941596	0	88804594000	273.033169	0.054724
121	13.918631	0	87844783000	278.635835	0.049953
576	11.956010	0	87913944000	262.914453	0.045475
220	7.264558	0	87870439000	332.694707	0.021836
12411	18.332182	0	88036143000	326.902224	0.056078
6715.166655	2.849735		303882390	22.7385	0.0096
5920.000000	13.553879	0.0	88196577300	301.0482	0.0442

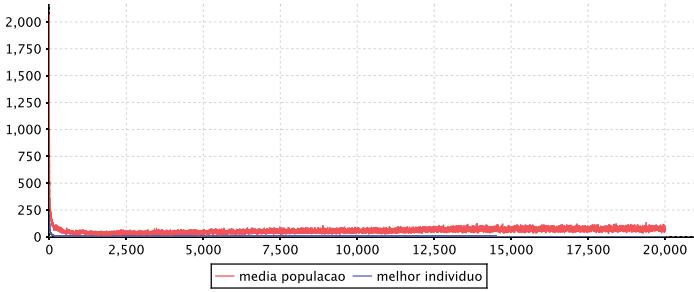


Particle Swarm		Function Unid		9.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão
37	1.000000	1	12057984000	1.000000	1.000000
70	1.000000	1	12133006000	1.000000	1.000000
41	1.000000	1	12368508000	1.000000	1.000000
34	1.000000	1	12456550000	1.000000	1.000000
51	1.000000	1	12294453000	1.000000	1.000000
30	1.000000	1	12064209000	1.000000	1.000000
37	1.000000	1	12277336000	1.000000	1.000000
84	1.000000	1	12289597000	1.000000	1.000000
37	1.000000	1	11849231000	1.000000	1.000000
85	1.000000	1	12075925000	1.000000	1.000000
20.055922	0.000000		172307248	0.0000	0.0000
50.600000	1.000000	100.0	12186679900	1.0000	1.0000

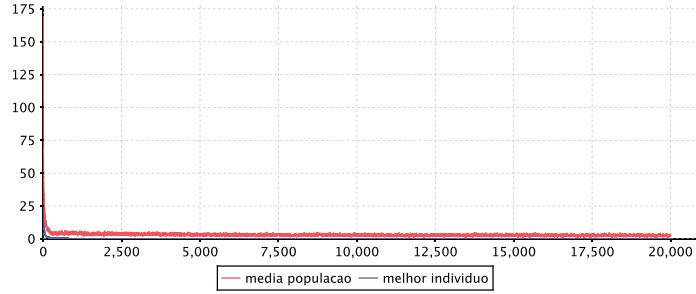




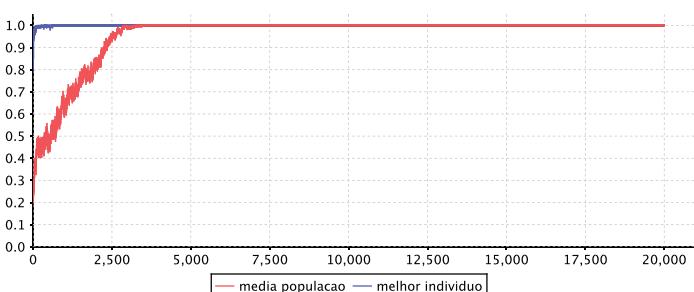
Particle Swarm			Function Rosenbrock			10.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão		
20000	2.337336	0	31664108000	79.014422	0.029581		
19356	2.558207	0	31551947000	94.327483	0.027120		
20000	2.285310	0	31853064000	21.611834	0.105743		
1228	3.159657	0	31273481000	23.291825	0.135655		
19995	2.035982	0	31563100000	33.536189	0.060710		
19234	3.458128	0	31709997000	101.063075	0.034218		
20000	2.155507	0	31862128000	67.223540	0.032065		
20000	3.484768	0	31720190000	31.053441	0.112218		
20000	2.483834	0	31805114000	72.670352	0.034179		
13005	3.793492	0	31623851000	35.593394	0.106579		
5730.911041	0.604050		166440042	28.6861	0.0402		
17281.800000	2.775222	0.0	31662698000	55.9386	0.0635		



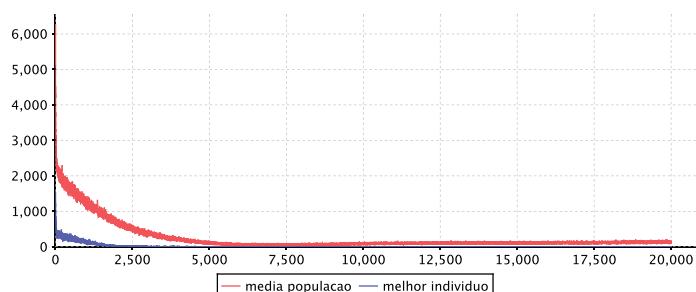
Particle Swarm			Function Griewank			11.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão		
20000	0.000000	1	68913522000	1.455686	0.000000		
11238	0.068794	0	86996523000	2.378000	0.028929		
4048	0.084849	0	87451385000	3.516174	0.024131		
5009	0.042664	0	87366723000	2.060123	0.020710		
17524	0.063885	0	81823276000	2.563492	0.024921		
18766	0.021119	0	87646317000	1.679091	0.012578		
16525	0.110875	0	87734071000	2.962942	0.037421		
5847	0.093519	0	88175467000	2.653657	0.035241		
17034	0.017758	0	75130015000	2.217998	0.008007		
14827	0.056548	0	85474440000	5.058497	0.011179		
5770.160896	0.033868	0	0.9815	0.0117			
13081.800000	0.056001	10.0	83671173900	2.6546	0.0213		



Particle Swarm			Function Unid			12.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão		
1710	1.000000	1	13547249000	1.000000	1.000000		
953	1.000000	1	13317215000	1.000000	1.000000		
1829	1.000000	1	13501453000	1.000000	1.000000		
1507	1.000000	1	13089589000	1.000000	1.000000		
1722	1.000000	1	13123651000	1.000000	1.000000		
1472	1.000000	1	12876019000	1.000000	1.000000		
1673	1.000000	1	13130500000	1.000000	1.000000		
2016	1.000000	1	12902283000	1.000000	1.000000		
1786	1.000000	1	13133068000	1.000000	1.000000		
1886	1.000000	1	13057900000	1.000000	1.000000		
280.562364	0.000000		213543381	0.0000	0.0000		
1655.400000	1.000000	100.0	13167892700	1.0000	1.0000		

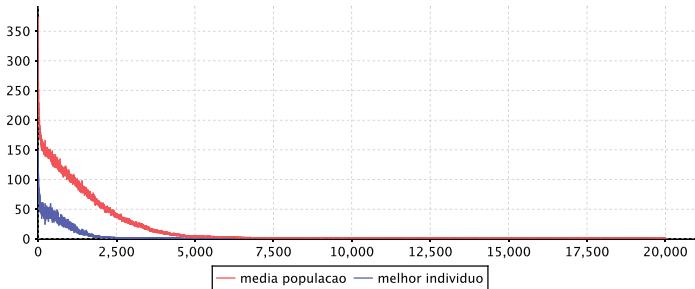


Particle Swarm			Function Rosenbrock			13.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão		
15608	0.768140	0	32208794000	158.589966	0.004844		
12842	2.223896	0	31810699000	126.724796	0.017549		
15799	0.501447	0	32012541000	156.375747	0.003207		
15100	0.514472	0	31972647000	99.210846	0.005186		
15328	0.456499	0	32359506000	98.436029	0.004638		
14809	0.546116	0	32184692000	116.575480	0.004685		
7756	0.235424	0	32518877000	135.279488	0.001740		
12994	2.005666	0	31760821000	92.645444	0.021649		
15841	0.787788	0	31549842000	43.069670	0.018291		
12311	2.102540	0	31794387000	120.353415	0.017470		
2382.704631	0.734298		284967303	32.2312	0.0073		
13838.800000	1.014199	0.0	32017280600	114.7261	0.0091		

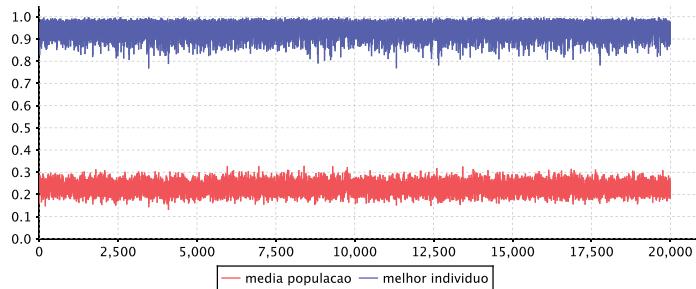




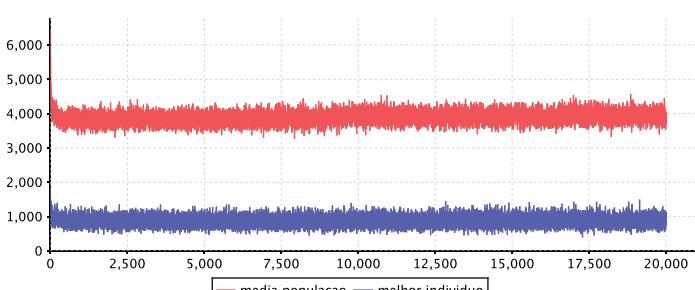
Particle Swarm		Function Griewank		14.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão
19978	0.044263	0	72269928000	0.817046	0.054175
10520	0.029498	0	75374210000	0.689805	0.042763
17049	0.034448	0	72484951000	0.687868	0.050079
10056	0.110624	0	81260951000	0.904430	0.122313
19772	0.054113	0	78625354000	0.791348	0.068381
17562	0.036902	0	70479923000	0.407138	0.090637
18652	0.054162	0	76908400000	0.428558	0.126382
10102	0.027052	0	68574730000	0.950820	0.028451
16535	0.046728	0	78967652000	0.836601	0.055854
9267	0.076211	0	77719219000	0.414820	0.183719
4187.523924	0.024043		367963628	0.1964	0.0327
14949.300000	0.051400	0.0	75266531800	0.6928	0.0710



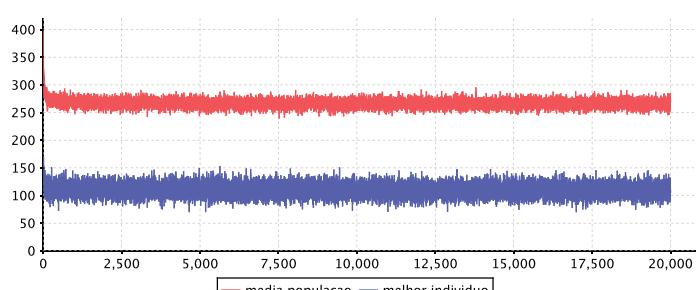
Particle Swarm		Function Unid		0.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão
774	1.000000	1	17662902000	0.136655	7.317676
10539	1.000000	1	16699989000	0.108377	9.227031
6171	1.000000	1	16698401000	0.156281	6.398713
11072	1.000000	1	16676409000	0.149759	6.677415
2001	1.000000	1	16714172000	0.327007	3.058038
4352	1.000000	1	16745080000	0.191140	5.231776
2278	1.000000	1	16763899000	0.261227	3.828093
425	1.000000	1	16764295000	0.277900	3.598422
869	1.000000	1	16743650000	0.301197	3.320091
2682	1.000000	1	16762223000	0.226488	4.415247
3730.453915	0.000000		281500503	0.0721	2.0141
4116.300000	1.000000	100.0	16823102000	0.2136	5.4064



Particle Swarm		Function Rosenbrock		1.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão
15644	55.743324	0	30962009000	4334.149621	0.012861
15837	36.893961	0	30882241000	3742.501480	0.009858
3076	34.886784	0	30859173000	3996.209687	0.008730
8961	15.497605	0	30701876000	4070.270474	0.003808
3701	59.552598	0	30698339000	3216.674152	0.018514
19813	33.121412	0	30821429000	4750.374717	0.006972
8844	44.092285	0	31041802000	4318.612948	0.010210
9901	43.532201	0	31172913000	3033.664591	0.014350
2060	35.090080	0	31048016000	3747.197622	0.009364
14977	50.267307	0	30956581000	4927.007685	0.010202
5824.838010	12.103096		144753567	575.8714	0.0040
10281.400000	40.867756	0.0	30914437900	4013.6663	0.0105

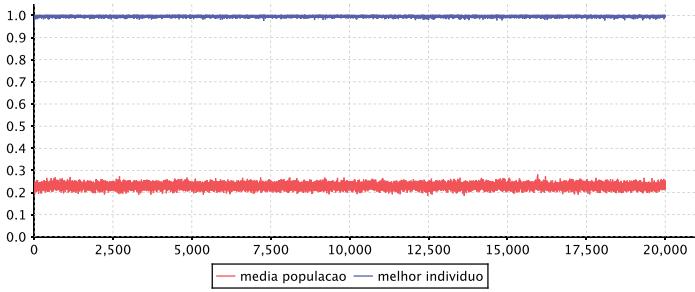


Particle Swarm		Function Griewank		2.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão
6522	14.334332	0	84063110000	300.898561	0.047638
7839	8.710558	0	84028961000	256.868041	0.033911
9855	7.030404	0	83960720000	300.366654	0.023406
4817	12.174580	0	84033602000	268.867552	0.045281
10686	6.827493	0	84030844000	287.490997	0.023749
2398	8.521971	0	84375571000	265.783555	0.032064
13935	13.182385	0	84090865000	281.667457	0.046801
9908	10.099735	0	84226616000	244.849352	0.041249
1474	6.158768	0	83881242000	275.152390	0.022383
10880	9.784842	0	84351276000	292.843293	0.033413
3792.669566	2.649087		154327035	17.6975	0.0099
7831.400000	9.682507	0.0	84104080700	277.4788	0.0352

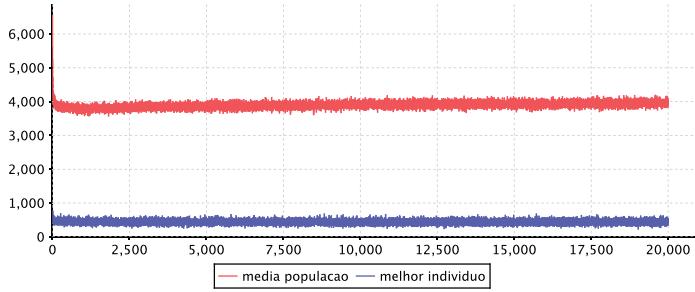




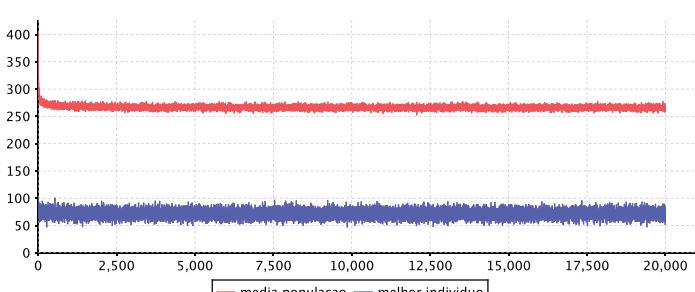
Particle Swarm		Function Unid		6.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão
17986	1.000000	1	83945586000	0.222421	4.495985
913	1.000000	1	84312905000	0.184081	5.432386
1180	1.000000	1	84738590000	0.227237	4.400696
3737	1.000000	1	84423373000	0.230220	4.343665
960	1.000000	1	85013784000	0.218208	4.582784
15689	1.000000	1	84941755000	0.200501	4.987494
9891	1.000000	1	84018464000	0.193102	5.178614
7743	1.000000	1	84195162000	0.156931	6.372246
2823	1.000000	1	83998327000	0.229057	4.365731
12001	1.000000	1	83910696000	0.319799	3.126961
6039.507613	0.000000		395303469	0.0407	0.6363
7292.300000	1.000000	100.0	84349864200	0.2182	4.9066



Particle Swarm		Function Rosenbrock		7.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão
18444	35.281224	0	155116354000	3951.108528	0.008929
7681	23.403275	0	155279577000	3921.956206	0.005967
7776	30.611970	0	155007537000	4179.453557	0.007324
9544	31.214856	0	156154806000	4137.132239	0.007545
2833	35.562348	0	155675980000	3839.749898	0.009262
11606	32.878970	0	155502655000	3592.521266	0.009152
12246	20.651960	0	155988357000	3870.311591	0.005336
9668	21.692293	0	155008142000	4149.852630	0.005227
16301	31.541079	0	154997900000	3871.829956	0.008146
17078	28.196031	0	154185979000	4156.412322	0.006784
4619.201512	5.162178		540688484	179.0274	0.0015
11317.700000	29.103401	0.0	155291728700	3967.0328	0.0074



Particle Swarm		Function Griewank		8.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Razão
19080	6.286128	0	419941083000	263.911002	0.023819
10202	4.251113	0	418592673000	269.075121	0.015799
10902	7.992697	0	420084643000	272.201248	0.029363
18842	9.153184	0	420633351000	260.753130	0.035103
19448	8.415012	0	421101446000	264.271298	0.031842
10977	6.010200	0	421238009000	258.256926	0.023272
16521	5.538851	0	420009240000	288.070770	0.019227
19612	10.167901	0	421676974000	280.540446	0.036244
18766	9.485924	0	419998653000	260.458143	0.036420
17766	6.216143	0	421215258000	261.083951	0.023809
3713.876094	1.854653		860823122	9.2817	0.0072
16211.600000	7.351715	0.0	420449133000	267.8622	0.0279



Simulated Annealing (1000.0, 0.035,		Function Unid		0.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Pop Inicial
54	0.999707	1	80249274	null	null
1189	0.999844	1	295254614	null	null
8	0.999729	1	1729182	null	null
870	0.999648	1	161137118	null	null
16	0.999980	1	4602177	null	null
26	0.999999	1	5528978	null	null
23	0.999997	1	4155398	null	null
1115	0.999977	1	171370811	null	null
2897	0.999558	1	492687177	null	null
316	0.999480	1	49104251	null	null
875.644471	0.000185		152951782	null	null
651.400000	0.999792	100.0	126581898	null	null
Simulated Annealing (1000.0, 0.035,		Function Rosenbrock		1.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Pop Inicial
20098	5.411761	0	2911742825	null	null
20098	4.917231	0	3059368274	null	null
20086	6.812080	0	2565510091	null	null
20094	9.609259	0	2475414473	null	null
20071	7.872056	0	2865106894	null	null
20099	5.127225	0	2690818436	null	null
20095	5.763872	0	2753525455	null	null
20096	5.357566	0	2665457783	null	null
20095	7.023853	0	2534947518	null	null
20094	7.205841	0	3005605388	null	null
7.977468	1.408546		191499648	null	null
20092.600000	6.510074	0.0	2752749713	null	null
Simulated Annealing (1000.0, 0.035,		Function Griewank		2.0	
Primeiro melhor	Melhor Solução	Sim	Tempo (ns)	Popula Final	Pop Inicial

20098	0.528681	0	12531798109	null	null
20089	1.042829	0	14050086937	null	null
20075	1.067687	0	11827728985	null	null
19980	0.383518	0	12880346607	null	null
20030	0.357454	0	11604260225	null	null
20063	0.469648	0	13705293044	null	null
19979	0.577769	0	12116633519	null	null
20076	0.906560	0	12189212852	null	null
20099	1.026304	0	11678409576	null	null
20042	0.593218	0	11090148766	null	null
42.432181	0.269797		893637186	null	null
20053.100000	0.695367	0.0	12367391862	null	null