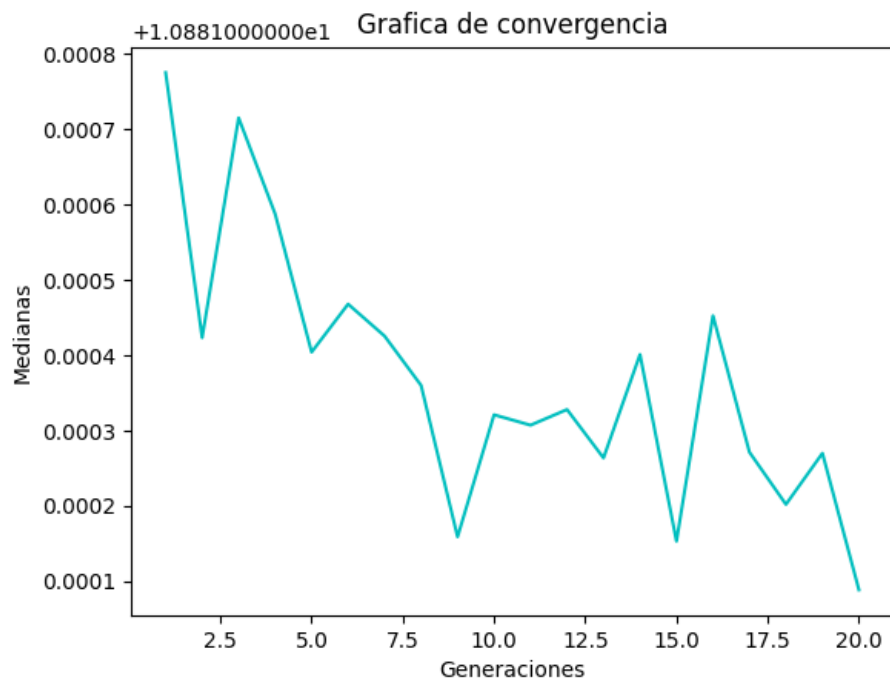# Computó evolutivo

Reporte Tarea 3

Profesor: Carlos Ignacio Hérnandez Castellanos

1. Resultados de ejecución mínima

Problema: Ackley

Tabla de resultados:

Generacion	Mínima	Media	Maxima	Desviación
1	0.0011142833743145867	10.881775063329597	0.00207233857703679	11.138195662798797
2	-0.0001163930797459604	10.881423370526955	22.204017363896916	11.138778021601452
3	0.00044095792300969327	10.881714947488453	22.204017363896916	11.138423486135483
4	0.0003302118316731246	10.881587586254952	22.204017363896916	11.138508519889756
5	-0.000917520473305299	10.88140416242373	22.204017363896916	11.139013181985367
6	-0.0009477281054672891	10.881467897380823	22.204017363896916	11.139001559186243
7	-0.0019481536468497161	10.881425514456346	22.204017363896916	11.139187529039578
8	-0.0018300856235360236	10.881360096626437	22.204017363896916	11.139199368070367
9	-0.0031173630243945	10.88115915910901	22.204017363896916	11.139931966022425
10	-0.0031490104713199755	10.8813210761893	22.204017363896916	11.139661185300367
11	-0.002284020066517391	10.881307289456636	22.204017363896916	11.139356645125781
12	-0.001757705769004426	10.8813280452599	22.204017363896916	11.13921055902183
13	-0.0015609536255206836	10.88126381668776	22.204017363896916	11.139201563438363
14	-0.001825607923125006	10.881401083204928	22.204017363896916	11.139152048484618
15	-0.0026484062187296037	10.881153281819799	22.204017363896916	11.139751272196754
16	-0.0034365235029594284	10.88145251640039	22.204017363896916	11.139553345826082
17	-0.0028016145456385096	10.88127142860756	22.204017363896916	11.139679958083724
18	-0.0024481276073021283	10.88120220187446	22.204017363896916	11.139528993477997
19	-0.00248429347708873	10.88127007498278	22.204017363896916	11.139572239879284
20	-0.002116788850989925	10.88108884260753	22.204017363896916	11.13953764240968
Promedio	-0.0016779608194385388	10.881368872734367	21.09392011263093	11.139222237398696

Problema: Eggholder

Tabla de resultados:

Generacion	Mínima	Media	Maxima	Desviación
1	-6.633805866686615	0.01518857524612766	85.75003807133814	172.70878594425795
2	-0.0013282176610285043	0.02222219808272923	51.15404327904483	172.68364340197857
3	-0.0012734029676327897	0.02269274575096583	555.3192844481657	172.6837892065525
4	-0.0013847656198366677	0.023726459281441792	722.6516175746044	172.68342991850093
5	-0.0009527825097424569	0.022772116470473135	314.28629863754713	172.68387050416152
6	-0.0010274580339106247	0.021929219587410037	145.75168881610728	172.68363355722073
7	-0.0011697557324844346	0.027213617621313156	145.75168881610728	172.6835743300031
8	-0.0011914984832490977	0.027260076340041225	314.28629863754713	172.68369397037597
9	-0.0012282027930505593	0.027692083422716826	158.9269048889322	172.68384248981732
10	-0.0009800821720394738	0.02459615117019519	158.9269048889322	172.683725525592352
11	-0.0012141577317745728	0.02892881040368877	158.9269048889322	172.68376365595412
12	-0.0012414561386670036	0.028064346459164096	159.83495429967803	172.68371201753678
13	-0.001450555101980369	0.029358112976604983	0.7420628934420961	172.68377181296682
14	-0.0012213660238274422	0.02675352084361641	6.547341362702653	172.68382902741445
15	-0.001470217541913774	0.028497805427065308	8.091032313928508	172.68381939324942
16	-0.0011931510514039017	0.027884078960499582	8.091032313928508	172.6833635041115
17	-0.000954194759118812	0.025102506180342724	8.091032313928508	172.68373588345986
18	-0.001061051144795023	0.02629607799646406	8.091032313928508	172.6837356580123
19	-0.0010798044606219507	0.026641614749775687	8.091032313928508	172.68363655564545
20	-0.0008166858520009846	0.026295364357471224	8.091032313928508	172.68351625187935
Promedio	-0.33280223362328465	0.02545577406640535	151.37011126933265	172.6849436169511

Grafica de convergencia

Problema: Rastrigin

Tabla de resultados:

Generacion	Mínima	Media	Maxima	Desviación
1	0.0087035581792768	109.06382877997189	0.01633929803160677	128.1648846948314
2	0.012069129193701305	109.06991019850443	235.2131156396594	128.16201168062716
3	0.009804708131732414	109.0643299205759	235.2131156396594	128.16388475213063
4	0.001901741304970024	109.05910793480284	235.2131156396594	128.16917476347265
5	0.0038889960580601995	109.06193269434917	235.2131156396594	128.1679412614529
6	0.004217521474657336	109.06155134859874	235.2131156396594	128.16800616344585
7	0.004109397033788275	109.05995598055648	235.2131156396594	128.16817538320728
8	0.0052949378048388245	109.06220853706803	235.2131156396594	128.16725340199565
9	0.004061035218528661	109.06015186232273	235.2131156396594	128.16830288040157
10	0.0029087708074557665	109.0593296924791	235.2131156396594	128.16904768911027
11	0.004083857034356036	109.06039529525881	235.2131156396594	128.1682616607532
12	0.004612562251445793	109.06015820612646	235.2131156396594	128.16786020532848
13	0.0038556467781489644	109.06034723877423	235.2131156396594	128.16843907262623
14	0.0041763222033808015	109.06018629893694	235.2131156396594	128.16817010326707
15	0.005820808270179859	109.06324417663856	235.2131156396594	128.16676652237453
16	0.003877187596910736	109.06016418002741	235.2131156396594	128.1682681936539
17	0.004727340586076065	109.06055575248398	235.2131156396594	128.1677134608485
18	0.00391400350071978	109.05944164265642	235.2131156396594	128.16840624932323
19	0.00512535283048	109.06319850827089	235.2131156396594	128.16743543304418
20	0.004395408180989781	109.05948000098739	235.2131156396594	128.16803189601197
Promedio	0.005077414221984871	109.06147391246952	223.45327682257803	128.16740177339534

Grafica de convergencia

Problema: Rosenbrock
Tabla de resultados:

Generacion	Mínima	Media	Maxima	Desviación
1	0.0010539729504360803	580181.8540922753	0.001964637120585839	878071.4536725235
2	7.883536956854676e-05	580181.8504838675	1321105.2137817016	878071.4543411948
3	0.0009618162763422417	580181.8532225969	1321105.2137817016	878071.4521799185
4	6.026173595744871e-05	580181.8539234228	1321105.2137817016	878071.4542519855
5	0.00019409415245177992	580181.851974294	1321105.2137817016	878071.4539202246
6	0.001275655666209433	580181.8621106187	1321105.2137817016	878071.4516309911
7	0.0011357401331336821	580181.853065168	1321105.2137817016	878071.4533823123
8	0.0006458460298959049	580181.8525274289	1321105.2137817016	878071.4540917367
9	0.00011985957997620726	580181.849155442	1321105.2137817016	878071.4542475292
10	2.4201883340563853e-05	580181.8504657203	1321105.2137817016	878071.4543238737
11	0.0001863355530388119	580181.8481200598	1321105.2137817016	878071.4543659972
12	5.123519718049607e-05	580181.8536724877	1321105.2137817016	878071.4539923402
13	8.229939112133055e-05	580181.8498576548	1321105.2137817016	878071.4540776641
14	0.0006836648331840919	580181.8484672784	1321105.2137817016	878071.453863973
15	0.0013407716835085383	580181.8529216509	1321105.2137817016	878071.4529937978
16	0.0013531767993960678	580181.851427242	1321105.2137817016	878071.4533637183
17	6.207498844250675e-05	580181.8525882321	1321105.2137817016	878071.4540867403
18	0.0007614962790918443	580181.8505584123	1321105.2137817016	878071.4533055415
19	0.0007568390784673816	580181.8495695748	1321105.2137817016	878071.4538905149
20	7.603594540981601e-05	580181.8508678682	1321105.2137817016	878071.4541162846
Promedio	0.0005452106763076388	580181.8519535648	1255049.9531908487	878071.453704943

Grafica de convergencia