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1 /Users/meijiaojiao/opt/anaconda3/envs/RunToEnd/bin/python /Users/meijiaojiao/Desktop/Evolution_algorithm/stuck in local minima/SSGA/SSGA.py
2 [['iterations', 'mutation_rate', 'num_individuals', 'crossover_probability', 'Mutation_type', 'Crossover_type', 'R']]
3 2022-11-20 19:42:58
4 Parameter Combination is [[1000000, 2.0, 100, 0.5, 'Normal', 'Probabilistic_crossover', 0.1]]
5 Now testing Function21
6 Times is 0
7 Iter at 1998, best solution is -9.72823E+00, optima is -10.1532, similarity is 8.930306301183984, phenotype is [3.9782904908343375, 4.020908480188564, 4.004542293322183, 3.940868939200687]
8 Iter at 3998, best solution is -1.00566E+01, optima is -10.1532, similarity is 3.4721613500086645, phenotype is [3.9782904908343375, 4.020908480188564, 4.004542293322183, 3.9930029256967856]
9 Iter at 5998, best solution is -1.01010E+01, optima is -10.1532, similarity is 3.6434034750020214, phenotype is [3.9919183469397197, 4.020908480188564, 4.004542293322183, 4.002740274362582]
10 Iter at 7998, best solution is -1.01454E+01, optima is -10.1532, similarity is 2.2899908408373326, phenotype is [3.993035968841056, 3.998922173777616, 4.004542293322183, 4.002740274362582]
11 Iter at 9998, best solution is -1.01503E+01, optima is -10.1532, similarity is 0.7649310638069098, phenotype is [3.999975888986391, 3.998922173777616, 4.004542293322183, 4.002740274362582]
12 Iter at 11998, best solution is -1.01524E+01, optima is -10.1532, similarity is 3.3452575615350892, phenotype is [3.999975888986391, 3.999521489098329, 3.9986821979255147, 3.997799061364208]
13 Iter at 13998, best solution is -1.01525E+01, optima is -10.1532, similarity is 1.954470265528229, phenotype is [3.999975888986391, 3.999521489098329, 3.9990496153783615, 3.997799061364208]
14 Iter at 15998, best solution is -1.01525E+01, optima is -10.1532, similarity is 0.9392784910847647, phenotype is [3.999975888986391, 3.999521489098329, 3.9990496153783615, 3.997799061364208]
15 Iter at 17998, best solution is -1.01525E+01, optima is -10.1532, similarity is 2.6803122189272495, phenotype is [3.999975888986391, 3.999521489098329, 3.9990496153783615, 3.997799061364208]
16 Iter at 19998, best solution is -1.01525E+01, optima is -10.1532, similarity is 0.25949720875880594, phenotype is [3.999975888986391, 3.999521489098329, 3.9990496153783615, 3.997799061364208]
17 Iter at 21998, best solution is -1.01525E+01, optima is -10.1532, similarity is 0.32632232719789184, phenotype is [3.999975888986391, 3.999521489098329, 3.9990496153783615, 3.997799061364208]
18 Iter at 23998, best solution is -1.01525E+01, optima is -10.1532, similarity is 1.6696428985936873, phenotype is [3.999975888986391, 3.999521489098329, 3.9990496153783615, 3.997799061364208]
19 Iter at 25998, best solution is -1.01526E+01, optima is -10.1532, similarity is 2.629267197191789, phenotype is [3.999975888986391, 3.999521489098329, 4.000019320579567, 3.997799061364208]
20 Iter at 27998, best solution is -1.01526E+01, optima is -10.1532, similarity is 2.128410556886013, phenotype is [3.999975888986391, 3.999521489098329, 4.000019320579567, 3.997799061364208]
21 Iter at 29998, best solution is -1.01529E+01, optima is -10.1532, similarity is 2.6390053551529267, phenotype is [3.999975888986391, 3.999521489098329, 4.000019320579567, 4.001886219756135]
22 Iter at 31998, best solution is -1.01529E+01, optima is -10.1532, similarity is 1.8165048980114138, phenotype is [3.999975888986391, 3.999521489098329, 4.000019320579567, 4.001886219756135]
23 Iter at 33998, best solution is -1.01529E+01, optima is -10.1532, similarity is 1.3508312027209277, phenotype is [3.999975888986391, 3.999521489098329, 4.000019320579567, 4.001886219756135]
24 Iter at 35998, best solution is -1.01529E+01, optima is -10.1532, similarity is 1.5517563589230825, phenotype is [3.999975888986391, 3.999521489098329, 4.000019320579567, 4.001886219756135]
25 Iter at 37998, best solution is -1.01529E+01, optima is -10.1532, similarity is 1.73432049675441, phenotype is [3.999975888986391, 3.999521489098329, 4.000019320579567, 4.001886219756135]
26 Iter at 39998, best solution is -1.01529E+01, optima is -10.1532, similarity is 2.396356465560639, phenotype is [3.999975888986391, 3.9999304942374083, 4.000019320579567, 4.001886219756135]
27 Iter at 41998, best solution is -1.01529E+01, optima is -10.1532, similarity is 0.36358313573189216, phenotype is [3.999975888986391, 3.9999304942374083, 4.000019320579567, 4.001886219756135]
28 Iter at 43998, best solution is -1.01531E+01, optima is -10.1532, similarity is 1.5555179598434032, phenotype is [3.999975888986391, 3.9999304942374083, 4.000019320579567, 3.9994412707978757]
29 Iter at 45998, best solution is -1.01531E+01, optima is -10.1532, similarity is 0.589058560676721, phenotype is [3.999975888986391, 3.9999304942374083, 4.000019320579567, 3.9994412707978757]
30 Iter at 47998, best solution is -1.01531E+01, optima is -10.1532, similarity is 0.7992572455415001, phenotype is [3.999975888986391, 3.9999304942374083, 4.000019320579567, 3.9994412707978757]
31 Iter at 49998, best solution is -1.01531E+01, optima is -10.1532, similarity is 1.8431134935408253, phenotype is [3.999975888986391, 3.9999304942374083, 4.000019320579567, 3.9994412707978757]
32 Iter at 51998, best solution is -1.01531E+01, optima is -10.1532, similarity is 2.3749738835644827, phenotype is [3.999975888986391, 3.9999304942374083, 4.000019320579567, 3.9994412707978757]
33 Iter at 53998, best solution is -1.01531E+01, optima is -10.1532, similarity is 0.17588940349267457, phenotype is [3.999975888986391, 3.9999304942374083, 4.000019320579567, 3.9994412707978757]
34 Iter at 55998, best solution is -1.01531E+01, optima is -10.1532, similarity is 1.3822386721952893, phenotype is [3.999975888986391, 3.9999304942374083, 4.000019320579567, 3.9994412707978757]
35 Iter at 57998, best solution is -1.01531E+01, optima is -10.1532, similarity is 0.8538426432955153, phenotype is [3.999975888986391, 3.9999304942374083, 4.000019320579567, 3.9994412707978757]
36 current optimal is -10.1532, global minima is -10.1532, similarity is 0.0025494404512373947
37
38 Process finished with exit code 0
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