GA-HW1 Hill Climbing

求:

實驗環境:

srand(114)

實驗次數:100次

OS:Windows

Steps: 從10開始找漸減到1、0.1至0.0001

setprecision(10)

實驗結果:

|  |  |
| --- | --- |
| 計算次數平均 | 最佳解平均 |
| 18 | 0.0000000000 |

100次實驗詳細數據:

|  |  |  |  |
| --- | --- | --- | --- |
| 實驗# | 起點 | 計算次數 | 最佳解(f(x)) |
| 1 | -97.49748222 | 27 | 0.0000000000 |
| 2 | 25.86443678 | 21 | 0.0000000000 |
| 3 | 59.53245643 | 22 | 0.0000000000 |
| 4 | 58.1469161 | 19 | 0.0000000000 |
| 5 | -69.0664388 | 21 | 0.0000000000 |
| 6 | -95.77623829 | 25 | 0.0000000000 |
| 7 | -83.29416791 | 22 | 0.0000000000 |
| 8 | 60.25879696 | 17 | 0.0000000000 |
| 9 | 52.56202887 | 19 | 0.0000000000 |
| 10 | 9.012115848 | 7 | 0.0000000000 |
| 11 | 32.81655324 | 18 | 0.0000000000 |
| 12 | -97.83928953 | 23 | 0.0000000000 |
| 13 | -88.78139592 | 20 | 0.0000000000 |
| 14 | 14.6641438 | 19 | 0.0000000000 |
| 15 | 66.67989135 | 17 | 0.0000000000 |
| 16 | 61.0339671 | 15 | 0.0000000000 |
| 17 | 14.57869198 | 17 | 0.0000000000 |
| 18 | 80.71840571 | 21 | 0.0000000000 |
| 19 | -7.8890347 | 7 | 0.0000000000 |
| 20 | -41.91717277 | 15 | 0.0000000000 |
| 21 | -29.05667287 | 16 | 0.0000000000 |
| 22 | 66.30146184 | 21 | 0.0000000000 |
| 23 | 79.50376904 | 20 | 0.0000000000 |
| 24 | -61.11941893 | 16 | 0.0000000000 |
| 25 | -26.5785699 | 18 | 0.0000000000 |
| 26 | 2.786339915 | 14 | 0.0000000000 |
| 27 | -97.22281564 | 23 | 0.0000000000 |
| 28 | -22.53181555 | 18 | 0.0000000000 |
| 29 | -87.53013703 | 21 | 0.0000000000 |
| 30 | 80.95645009 | 23 | 0.0000000000 |
| 31 | 2.99386578 | 10 | 0.0000000000 |
| 32 | 10.56245613 | 18 | 0.0000000000 |
| 33 | -1.644947661 | 17 | 0.0000000000 |
| 34 | -91.18015076 | 17 | 0.0000000000 |
| 35 | -60.20386364 | 14 | 0.0000000000 |
| 36 | -91.90649129 | 23 | 0.0000000000 |
| 37 | 74.51094089 | 21 | 0.0000000000 |
| 38 | 96.41102329 | 21 | 0.0000000000 |
| 39 | -37.88872951 | 13 | 0.0000000000 |
| 40 | -13.6875515 | 16 | 0.0000000000 |
| 41 | -96.79555651 | 24 | 0.0000000000 |
| 42 | -76.23828852 | 24 | 0.0000000000 |
| 43 | 29.11160619 | 13 | 0.0000000000 |
| 44 | 69.7256386 | 22 | 0.0000000000 |
| 45 | 4.776146733 | 15 | 0.0000000000 |
| 46 | -51.60374767 | 19 | 0.0000000000 |
| 47 | 12.91238136 | 13 | 0.0000000000 |
| 48 | 8.120975372 | 8 | 0.0000000000 |
| 49 | -68.49269082 | 22 | 0.0000000000 |
| 50 | -91.58299509 | 21 | 0.0000000000 |
| 51 | 14.10260323 | 14 | 0.0000000000 |
| 52 | 54.9119541 | 15 | 0.0000000000 |
| 53 | -42.3383282 | 19 | 0.0000000000 |
| 54 | -22.33039338 | 15 | 0.0000000000 |
| 55 | 21.43925291 | 16 | 0.0000000000 |
| 56 | 13.0466628 | 16 | 0.0000000000 |
| 57 | 66.66768395 | 22 | 0.0000000000 |
| 58 | -71.0135197 | 19 | 0.0000000000 |
| 59 | 46.94662313 | 22 | 0.0000000000 |
| 60 | -45.2375866 | 23 | 0.0000000000 |
| 61 | 16.87978759 | 11 | 0.0000000000 |
| 62 | 62.01666311 | 17 | 0.0000000000 |
| 63 | -32.38319041 | 17 | 0.0000000000 |
| 64 | 21.43925291 | 16 | 0.0000000000 |
| 65 | -32.90200507 | 10 | 0.0000000000 |
| 66 | 51.59764397 | 18 | 0.0000000000 |
| 67 | 5.044709616 | 19 | 0.0000000000 |
| 68 | -90.27680288 | 20 | 0.0000000000 |
| 69 | 43.10739463 | 17 | 0.0000000000 |
| 70 | -26.72505875 | 19 | 0.0000000000 |
| 71 | 74.17523728 | 23 | 0.0000000000 |
| 72 | -49.71770379 | 16 | 0.0000000000 |
| 73 | -73.5770745 | 22 | 0.0000000000 |
| 74 | 61.83355205 | 22 | 0.0000000000 |
| 75 | -67.57103183 | 18 | 0.0000000000 |
| 76 | -14.62752159 | 21 | 0.0000000000 |
| 77 | 46.65974914 | 19 | 0.0000000000 |
| 78 | 59.4042787 | 19 | 0.0000000000 |
| 79 | -39.4634846 | 23 | 0.0000000000 |
| 80 | -48.55189673 | 19 | 0.0000000000 |
| 81 | 58.57417524 | 21 | 0.0000000000 |
| 82 | -90.74678793 | 24 | 0.0000000000 |
| 83 | -93.84136479 | 25 | 0.0000000000 |
| 84 | -26.82882168 | 15 | 0.0000000000 |
| 85 | -14.84115116 | 16 | 0.0000000000 |
| 86 | 51.48777734 | 17 | 0.0000000000 |
| 87 | 21.75664541 | 18 | 0.0000000000 |
| 88 | 74.95651112 | 25 | 0.0000000000 |
| 89 | -92.01025422 | 16 | 0.0000000000 |
| 90 | 76.97073275 | 19 | 0.0000000000 |
| 91 | -72.25867489 | 21 | 0.0000000000 |
| 92 | -83.70921964 | 20 | 0.0000000000 |
| 93 | -13.85235145 | 18 | 0.0000000000 |
| 94 | -4.245124668 | 18 | 0.0000000000 |
| 95 | 32.38319041 | 17 | 0.0000000000 |
| 96 | 57.28629414 | 21 | 0.0000000000 |
| 97 | 84.77126377 | 23 | 0.0000000000 |
| 98 | 76.12231819 | 21 | 0.0000000000 |
| 99 | 39.51231422 | 16 | 0.0000000000 |
| 100 | -39.64659566 | 21 | 0.0000000000 |