Russell Farinha

February 17, 2022

Professor Eick

COSC 4368

Assignment 1, Task 1 Report

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|  | Run1 (Seed 12) | | | | Run2 (Seed 99) | | | |
| p = 30  z = 3 | #sol Searched | sol | f(sol) | Total # sol searched | #sol Searched | sol | f(sol) | Total # sol searched |
| (404, 504) | 14 | (401.3647081771338, 506.4902018604597) | -309.23746222407874 | 60 | 35 | (401.7855616542051, 506.18357669048146) | -298.0817727584905 | 90 |
| (0, 0.23) | 51 | (2.902890415234215, 3.2209708148194376) | -41.12883632910774 | 90 | 23 | (2.8973285337221073, 2.8934635703204026) | -40.09213062316174 | 60 |
| (-200, 300) | 49 | (-201.55047962986174, 297.05177912867396) | -235.36648277381425 | 90 | 113 | (-202.7150693209203, 297.2168498954664) | -242.1859834153051 | 150 |
| (412, -99.9) | 14 | (409.3647081771338, -97.40979813954033) | -220.86893774277627 | 60 | 35 | (409.7855616542051, -97.71642330951855) | -215.36855189334958 | 90 |

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|  | Run1 (Seed 12) | | | | Run2 (Seed 99) | | | |
| p = 30  z = 0.5 | #sol Searched | sol | f(sol) | Total # sol searched | #sol Searched | sol | f(sol) | Total # sol searched |
| (404, 504) | 14 | (403.560784696189, 504.41503364340997) | -247.18782364960796 | 60 | 35 | (403.6309269423675, 504.36392944841356) | -245.38454807793093 | 90 |
| (0, 0.23) | 51 | (0.4838150692057025, 0.7284951358032397) | -28.88272957146586 | 90 | 23 | (0.4828880889536845, 0.6739105950534003) | -28.696018318571056 | 60 |
| (-200, 300) | 49 | (-200.25841327164363, 299.508629854779) | -201.04212788777704 | 90 | 113 | (-200.45251155348672, 299.5361416492444) | -202.16782862102875 | 150 |
| (412, -99.9) | 14 | (411.560784696189, -99.48496635659006) | -188.4630241687141 | 60 | 35 | (411.6309269423675, -99.53607055158643) | -187.49231304454798 | 90 |

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|  | Run1 (Seed 12) | | | | Run2 (Seed 99) | | | |
| p = 250  z = 3 | #sol Searched | sol | f(sol) | Total # sol searched | #sol Searched | sol | f(sol) | Total # sol searched |
| (404, 504) | 448 | (401.06108894728226, 506.76754469427544) | -247.18782364960796 | 750 | 437 | (401.1976485984862, 506.9223882863018) | -316.66375128096996 | 750 |
| (0, 0.23) | 51 | (2.902890415234215, 3.2209708148194376) | -41.12883632910774 | 500 |  |  |  |  |
| (-200, 300) |  |  |  |  | 203 | (-202.57724842525974, 297.00445646497855) | -243.3249860323349 | 500 |
| (412, -99.9) | 448 | (409.06108894728226, -97.13245530572456) | -225.12915831553988 | 750 | 437 | (409.1976485984862, -96.97761171369821) | -224.88353145487946 | 750 |

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|  | Run1 (Seed 12) | | | | Run2 (Seed 99) | | | |
| p = 250  z = 0.5 | #sol Searched | sol | f(sol) | Total # sol searched | #sol Searched | sol | f(sol) | Total # sol searched |
| (404, 504) | 448 | (403.5101814912137, 504.4612574490459) | -248.57652659792416 | 750 | 437 | (403.532941433081, 504.4870647143836) | -248.38077491064345 | 750 |
| (0, 0.23) | 51 | (0.4838150692057025, 0.7284951358032397) | -28.88272957146586 | 500 |  |  |  |  |
| (-200, 300) |  |  |  |  | 203 | (-200.42954140420994, 299.5007427441631) | -202.365195467628 | 500 |
| (412, -99.9) | 448 | (411.5101814912137, -99.4387425509541) | -189.22157144998417 | 750 | 437 | (411.532941433081, -99.41293528561637) | -189.17558851539025 | 750 |