Run 0: genome to sequence: [15, 7, 13, 3, 6, 1, 17, 20, 22, 10, 16, 23, 25, 2, 19, 12, 21, 11, 8, 4, 24, 9, 14, 18, 5]

sol 0 : level: 20

mutationtracker:[138, 8, 25, 43, 281, 60, 85, 66, 272, 99, 82, 86, 101, 132, 91, 167, 243, 89, 128, 296]

cost: 3.6800830745316655

mutsum 144

mutsum2 873.0

duration: 300.835 sec

Run 1: genome to sequence: [5, 21, 13, 1, 16, 11, 19, 24, 7, 9, 4, 14, 17, 20, 6, 8, 18, 12, 22, 15, 2, 23, 3, 10, 25]

sol 0 : level: 23

mutationtracker:[99, 148, 156, 216, 161, 77, 30, 37, 14, 94, 189, 32, 198, 24, 110, 124, 67, 66, 65, 64, 63, 154, 202]

cost: 2.1178524696272434

mutsum 126

mutsum2 471.0

sol 1 : level: 22

mutationtracker:[99, 148, 156, 216, 161, 77, 30, 37, 14, 94, 189, 32, 198, 24, 110, 124, 19, 88, 65, 64, 171, 216]

cost: 2.210013973040945

mutsum 124

mutsum2 486.0

sol 2 : level: 19

mutationtracker:[99, 148, 156, 216, 161, 77, 30, 37, 14, 94, 189, 32, 198, 24, 110, 22, 241, 118, 253]

cost: 2.387275754180793

mutsum 122

mutsum2 567.0

sol 3 : level: 19

mutationtracker:[99, 148, 156, 216, 161, 77, 30, 37, 14, 94, 189, 32, 220, 168, 2, 1, 0, 273, 297]

cost: 3.6549486302065413

mutsum 132

mutsum2 798.0

sol 4 : level: 19

mutationtracker:[99, 148, 156, 216, 161, 77, 30, 37, 14, 94, 189, 32, 58, 180, 136, 178, 222, 110, 171]

cost: 1.4374769960526095

mutsum 124

mutsum2 520.0

sol 5 : level: 19

mutationtracker:[99, 148, 156, 216, 161, 77, 30, 37, 94, 189, 32, 11, 209, 99, 178, 38, 112, 138, 236]

cost: 2.22894242084746

mutsum 122

mutsum2 525.0

sol 6 : level: 18

mutationtracker:[99, 148, 156, 216, 161, 77, 30, 37, 94, 189, 32, 198, 110, 124, 2, 259, 108, 283]

cost: 2.8641857841904708

mutsum 130

mutsum2 675.0

sol 7 : level: 18

mutationtracker:[99, 148, 156, 216, 161, 77, 30, 37, 94, 189, 198, 110, 2, 28, 232, 97, 123, 193]

cost: 1.5128763271882735

mutsum 118

mutsum2 501.0

sol 8 : level: 18

mutationtracker:[99, 148, 156, 216, 161, 77, 37, 14, 94, 189, 198, 24, 124, 110, 232, 97, 193, 37]

cost: 0.3128763271882736

mutsum 118

mutsum2 501.0

sol 9 : level: 18

mutationtracker:[99, 148, 156, 216, 161, 75, 4, 239, 37, 85, 93, 69, 115, 71, 7, 45, 204, 262]

cost: 2.4125489629377244

mutsum 115

mutsum2 534.5

sol 10 : level: 17

mutationtracker:[99, 148, 156, 216, 161, 75, 4, 239, 37, 85, 93, 190, 253, 132, 56, 147, 209]

cost: 1.714980141546362

mutsum 126

mutsum2 605.0

sol 11 : level: 17

mutationtracker:[99, 148, 156, 216, 161, 75, 4, 239, 37, 85, 94, 76, 110, 112, 45, 204, 262]

cost: 2.280457908090301

mutsum 116

mutsum2 544.0

duration: 301.037 sec

Run 2: genome to sequence: [22, 10, 18, 24, 2, 12, 3, 1, 9, 14, 21, 4, 20, 25, 6, 23, 7, 19, 5, 11, 15, 8, 16, 17, 13]

sol 0 : level: 22

mutationtracker:[5, 10, 15, 20, 204, 167, 33, 48, 59, 67, 96, 12, 94, 265, 63, 37, 24, 27, 82, 116, 264, 221]

cost: 2.208964121028588

mutsum 111

mutsum2 541.5

sol 1 : level: 22

mutationtracker:[5, 10, 15, 20, 204, 167, 33, 48, 59, 67, 96, 12, 94, 265, 63, 82, 116, 39, 24, 264, 221, 46]

cost: 0.3756307876952548

mutsum 111

mutsum2 541.5

sol 2 : level: 22

mutationtracker:[5, 10, 15, 20, 204, 167, 33, 48, 59, 67, 96, 12, 94, 265, 63, 24, 27, 208, 90, 46, 228, 299]

cost: 4.41009473088805

mutsum 125

mutsum2 744.5

sol 3 : level: 21

mutationtracker:[5, 10, 15, 20, 204, 167, 33, 48, 59, 67, 96, 12, 94, 265, 63, 16, 170, 156, 128, 293, 290]

cost: 3.6864304609171232

mutsum 132

mutsum2 825.0

sol 4 : level: 21

mutationtracker:[5, 10, 15, 20, 204, 167, 33, 48, 59, 96, 12, 94, 265, 18, 82, 67, 208, 201, 293, 290, 255]

cost: 2.81281597133132

mutsum 148

mutsum2 987.0

sol 5 : level: 21

mutationtracker:[5, 10, 15, 20, 204, 167, 33, 48, 59, 96, 12, 94, 265, 201, 158, 67, 50, 47, 216, 272, 221]

cost: 2.1112572721153486

mutsum 130

mutsum2 696.0

sol 6 : level: 21

mutationtracker:[5, 10, 15, 20, 204, 167, 33, 48, 59, 67, 96, 94, 265, 63, 37, 172, 128, 82, 293, 290, 110]

cost: 1.061603649718898

mutsum 134

mutsum2 820.0

sol 7 : level: 21

mutationtracker:[5, 10, 15, 20, 204, 167, 33, 48, 59, 96, 94, 265, 18, 82, 67, 129, 134, 131, 271, 255, 200]

cost: 1.9364304609171235

mutsum 132

mutsum2 703.0

sol 8 : level: 20

mutationtracker:[5, 10, 15, 20, 204, 167, 59, 92, 25, 33, 115, 67, 140, 11, 235, 47, 32, 180, 258, 221]

cost: 2.010248644896874

mutsum 110

mutsum2 526.0

duration: 301.240 sec

Run 3: genome to sequence: [5, 2, 3, 8, 19, 12, 21, 6, 24, 1, 4, 15, 20, 13, 7, 11, 16, 10, 23, 25, 17, 22, 9, 14, 18]

sol 0 : level: 25

mutationtracker:[134, 111, 16, 42, 109, 36, 11, 86, 82, 96, 134, 3, 248, 106, 224, 69, 5, 6, 7, 8, 9, 10, 11, 207, 192]

cost: 2.0906666666666665

mutsum 110

mutsum2 445.0

sol 1 : level: 25

mutationtracker:[134, 111, 16, 42, 109, 36, 11, 86, 82, 96, 134, 3, 248, 106, 224, 69, 30, 52, 8, 9, 10, 11, 12, 178, 193]

cost: 2.0907333333333336

mutsum 111

mutsum2 430.5

sol 2 : level: 24

mutationtracker:[134, 111, 16, 42, 109, 36, 11, 86, 82, 96, 134, 3, 248, 106, 224, 69, 115, 95, 11, 12, 13, 14, 145, 162]

cost: 1.607938161203464

mutsum 112

mutsum2 420.0

sol 3 : level: 20

mutationtracker:[134, 111, 16, 42, 109, 36, 11, 86, 82, 96, 134, 3, 248, 106, 224, 69, 95, 74, 220, 232]

cost: 2.1774743285579157

mutsum 116

mutsum2 508.0

sol 4 : level: 20

mutationtracker:[134, 111, 16, 42, 109, 36, 11, 86, 82, 96, 134, 3, 147, 8, 7, 22, 241, 53, 45, 267]

cost: 2.8419049272470827

mutsum 92

mutsum2 396.0

sol 5 : level: 20

mutationtracker:[134, 111, 16, 42, 109, 36, 11, 86, 82, 96, 134, 147, 8, 7, 22, 241, 45, 53, 267, 18]

cost: 0.17523826058041586

mutsum 92

mutsum2 396.0

sol 6 : level: 20

mutationtracker:[134, 111, 16, 42, 109, 36, 11, 86, 82, 96, 134, 147, 7, 93, 6, 215, 145, 108, 162, 169]

cost: 1.509316949906249

mutsum 100

mutsum2 340.0

sol 7 : level: 19

mutationtracker:[134, 111, 16, 42, 109, 36, 11, 86, 82, 96, 134, 147, 202, 127, 145, 4, 27, 237, 105]

cost: 0.8015275183856645

mutsum 98

mutsum2 361.0

sol 8 : level: 18

mutationtracker:[134, 111, 16, 42, 109, 36, 11, 86, 82, 134, 3, 248, 106, 178, 193, 79, 211, 69]

cost: 0.6108030202681278

mutsum 99

mutsum2 404.5

duration: 300.436 sec

Run 4: genome to sequence: [7, 20, 14, 21, 2, 23, 9, 24, 5, 15, 13, 4, 17, 12, 8, 10, 19, 11, 16, 18, 22, 3, 25, 1, 6]

sol 0 : level: 23

mutationtracker:[259, 297, 4, 15, 16, 21, 25, 32, 34, 80, 15, 17, 43, 28, 93, 116, 143, 134, 152, 95, 23, 233, 134]

cost: 1.3505814133546141

mutsum 118

mutsum2 647.0

sol 1 : level: 23

mutationtracker:[259, 297, 4, 15, 16, 21, 25, 32, 34, 80, 15, 17, 43, 28, 93, 116, 219, 66, 109, 140, 65, 214, 250]

cost: 2.884594684994655

mutsum 127

mutsum2 746.5

sol 2 : level: 23

mutationtracker:[259, 297, 4, 15, 16, 21, 25, 32, 34, 80, 15, 17, 43, 28, 93, 116, 21, 177, 79, 58, 191, 260, 284]

cost: 3.651639095165048

mutsum 132

mutsum2 856.0

sol 3 : level: 23

mutationtracker:[259, 297, 4, 15, 16, 21, 25, 32, 34, 80, 15, 17, 43, 28, 93, 116, 22, 23, 160, 244, 58, 115, 169]

cost: 1.7334614544834754

mutsum 112

mutsum2 638.0

sol 4 : level: 22

mutationtracker:[259, 297, 4, 15, 16, 21, 25, 32, 34, 80, 15, 17, 43, 28, 93, 116, 177, 57, 35, 191, 260, 284]

cost: 3.4937510956098006

mutsum 129

mutsum2 849.5

sol 5 : level: 22

mutationtracker:[259, 297, 4, 15, 16, 21, 25, 32, 34, 80, 15, 17, 43, 28, 93, 23, 30, 218, 200, 128, 239, 254]

cost: 2.7600947308880497

mutsum 125

mutsum2 789.5

sol 6 : level: 22

mutationtracker:[259, 297, 4, 15, 16, 21, 25, 32, 34, 80, 15, 17, 28, 93, 116, 143, 60, 126, 106, 284, 263, 208]

cost: 2.0275689760257603

mutsum 135

mutsum2 870.5

sol 7 : level: 22

mutationtracker:[259, 297, 4, 15, 16, 21, 25, 32, 34, 80, 15, 17, 28, 93, 30, 135, 140, 126, 101, 284, 23, 271]

cost: 3.1268421554018206

mutsum 126

mutsum2 831.0

sol 8 : level: 22

mutationtracker:[259, 297, 4, 15, 16, 21, 25, 32, 34, 80, 28, 93, 15, 116, 143, 60, 40, 87, 128, 244, 152, 200]

cost: 2.026519124013403

mutsum 122

mutsum2 689.0

sol 9 : level: 22

mutationtracker:[259, 297, 4, 15, 16, 31, 25, 37, 21, 28, 80, 75, 10, 219, 9, 137, 82, 56, 50, 51, 284, 65]

cost: 0.5592871524170058

mutsum 115

mutsum2 722.5

duration: 304.456 sec

Run 5: genome to sequence: [1, 10, 3, 23, 4, 12, 20, 5, 16, 2, 7, 11, 15, 25, 24, 13, 18, 6, 22, 17, 8, 14, 9, 21, 19]

sol 0 : level: 20

mutationtracker:[3, 169, 21, 41, 54, 87, 40, 78, 60, 71, 74, 101, 109, 165, 48, 20, 216, 146, 228, 5]

cost: 0.17533143007947835

mutsum 93

mutsum2 338.5

sol 1 : level: 20

mutationtracker:[3, 169, 21, 41, 54, 87, 40, 78, 60, 71, 74, 101, 165, 48, 157, 22, 251, 5, 45, 128]

cost: 1.0081057464184366

mutsum 87

mutsum2 309.5

duration: 300.296 sec

Run 6: genome to sequence: [20, 10, 3, 15, 19, 8, 2, 21, 5, 13, 1, 24, 4, 17, 9, 23, 6, 16, 22, 12, 14, 11, 18, 25, 7]

sol 0 : level: 23

mutationtracker:[20, 268, 23, 31, 171, 45, 29, 56, 189, 57, 113, 48, 65, 82, 121, 0, 1, 2, 132, 45, 190, 145, 212]

cost: 2.3085370031842207

mutsum 113

mutsum2 478.5

sol 1 : level: 22

mutationtracker:[20, 268, 23, 31, 171, 45, 29, 56, 189, 57, 113, 48, 65, 82, 121, 25, 47, 132, 45, 190, 145, 212]

cost: 2.209287152417006

mutsum 115

mutsum2 483.5

sol 2 : level: 22

mutationtracker:[20, 268, 23, 31, 171, 45, 29, 56, 189, 57, 113, 48, 65, 82, 121, 162, 121, 47, 24, 226, 72, 288]

cost: 3.67700367109603

mutsum 128

mutsum2 653.0

sol 3 : level: 22

mutationtracker:[20, 268, 23, 31, 171, 45, 29, 56, 189, 57, 113, 48, 65, 82, 121, 58, 45, 220, 168, 47, 24, 258]

cost: 2.942943517138757

mutsum 119

mutsum2 557.5

sol 4 : level: 22

mutationtracker:[20, 268, 23, 31, 171, 45, 29, 56, 189, 57, 113, 48, 65, 82, 0, 1, 2, 178, 183, 123, 37, 170]

cost: 1.6584795739459617

mutsum 105

mutsum2 438.5

sol 5 : level: 21

mutationtracker:[20, 268, 23, 31, 171, 45, 29, 56, 189, 57, 113, 65, 69, 3, 82, 121, 132, 45, 190, 145, 212]

cost: 2.1096985728993776

mutsum 112

mutsum2 481.0

sol 6 : level: 21

mutationtracker:[20, 268, 23, 31, 171, 45, 29, 56, 189, 57, 113, 65, 69, 11, 102, 3, 167, 64, 193, 141, 185]

cost: 1.7594387896967156

mutsum 109

mutsum2 464.5

duration: 303.518 sec

Run 7: genome to sequence: [15, 3, 10, 6, 24, 19, 23, 11, 13, 17, 8, 5, 4, 14, 1, 25, 9, 16, 12, 18, 2, 21, 20, 22, 7]

sol 0 : level: 18

mutationtracker:[173, 222, 237, 177, 19, 30, 59, 97, 111, 54, 52, 103, 88, 9, 254, 53, 34, 177]

cost: 1.361675991602926

mutsum 107

mutsum2 490.5

sol 1 : level: 18

mutationtracker:[173, 222, 237, 177, 94, 59, 19, 116, 91, 4, 103, 88, 132, 32, 6, 217, 108, 278]

cost: 2.713094570021973

mutsum 120

mutsum2 606.0

sol 2 : level: 18

mutationtracker:[173, 222, 237, 177, 94, 59, 19, 116, 91, 4, 103, 132, 140, 22, 191, 6, 278, 252]

cost: 2.264185784190471

mutsum 130

mutsum2 699.0

sol 3 : level: 17

mutationtracker:[173, 222, 237, 177, 94, 59, 19, 116, 91, 4, 103, 140, 278, 93, 44, 239, 282]

cost: 2.7078357083357556

mutsum 136

mutsum2 804.0

sol 4 : level: 17

mutationtracker:[173, 222, 237, 177, 94, 59, 19, 116, 91, 4, 140, 132, 191, 251, 89, 240, 105]

cost: 0.7235512549042405

mutsum 128

mutsum2 642.0

sol 5 : level: 17

mutationtracker:[173, 222, 237, 177, 94, 59, 19, 116, 91, 4, 278, 93, 102, 3, 150, 219, 167]

cost: 1.2897423615218164

mutsum 124

mutsum2 644.0

sol 6 : level: 17

mutationtracker:[173, 222, 237, 177, 94, 59, 115, 260, 2, 6, 68, 137, 172, 46, 163, 257, 298]

cost: 3.2755723851128766

mutsum 145

mutsum2 923.5

sol 7 : level: 17

mutationtracker:[173, 222, 237, 177, 94, 59, 115, 260, 2, 6, 137, 172, 145, 88, 257, 298, 91]

cost: 0.7259290551496947

mutsum 148

mutsum2 930.0

sol 8 : level: 17

mutationtracker:[173, 222, 237, 177, 94, 59, 115, 260, 6, 68, 137, 172, 268, 148, 46, 218, 68]

cost: 0.44128793168136154

mutsum 137

mutsum2 751.5

sol 9 : level: 16

mutationtracker:[173, 222, 237, 177, 94, 59, 115, 260, 6, 172, 139, 145, 88, 289, 148, 254]

cost: 2.0190104166666667

mutsum 146

mutsum2 869.0

duration: 301.063 sec

Run 8: genome to sequence: [19, 24, 2, 6, 25, 16, 3, 14, 23, 11, 13, 5, 17, 15, 7, 18, 21, 10, 12, 1, 8, 4, 22, 20, 9]

sol 0 : level: 25

mutationtracker:[127, 16, 25, 31, 36, 141, 50, 7, 68, 151, 56, 49, 139, 156, 23, 254, 32, 30, 110, 136, 6, 7, 8, 173, 156]

cost: 1.6739333333333335

mutsum 109

mutsum2 389.5

sol 1 : level: 24

mutationtracker:[127, 16, 25, 31, 36, 141, 50, 7, 68, 151, 56, 49, 139, 156, 23, 254, 32, 30, 136, 91, 25, 47, 238, 248]

cost: 3.00864692559663

mutsum 122

mutsum2 527.0

sol 2 : level: 24

mutationtracker:[127, 16, 25, 31, 36, 141, 50, 7, 68, 151, 56, 49, 139, 156, 23, 254, 32, 6, 153, 103, 116, 110, 116, 122]

cost: 1.207938161203464

mutsum 112

mutsum2 388.0

sol 3 : level: 23

mutationtracker:[127, 16, 25, 31, 36, 141, 50, 7, 68, 151, 56, 49, 139, 156, 23, 254, 75, 32, 110, 153, 62, 35, 83]

cost: 0.7742970854419436

mutsum 101

mutsum2 343.5

sol 4 : level: 22

mutationtracker:[127, 16, 25, 31, 36, 141, 50, 68, 77, 122, 134, 94, 49, 13, 79, 83, 66, 87, 256, 193, 110, 299]

cost: 4.409933215193841

mutsum 123

mutsum2 638.5

duration: 301.642 sec

Run 9: genome to sequence: [21, 25, 18, 13, 3, 7, 20, 5, 6, 17, 12, 2, 4, 11, 14, 16, 19, 15, 10, 1, 23, 9, 24, 22, 8]

sol 0 : level: 19

mutationtracker:[45, 114, 286, 6, 11, 38, 41, 155, 185, 47, 68, 83, 124, 130, 96, 21, 231, 75, 114]

cost: 0.9604645773344467

mutsum 104

mutsum2 490.0

sol 1 : level: 19

mutationtracker:[45, 114, 286, 6, 11, 38, 41, 155, 185, 47, 68, 124, 130, 96, 21, 231, 75, 114, 80]

cost: 0.64379791066778

mutsum 104

mutsum2 490.0

sol 2 : level: 19

mutationtracker:[45, 114, 286, 6, 11, 38, 41, 155, 185, 47, 68, 83, 21, 130, 96, 231, 75, 114, 121]

cost: 0.9604645773344467

mutsum 104

mutsum2 490.0

sol 3 : level: 19

mutationtracker:[45, 114, 286, 6, 11, 38, 41, 155, 185, 47, 68, 83, 204, 130, 73, 119, 187, 87, 276]

cost: 2.8622757541807933

mutsum 122

mutsum2 655.0

sol 4 : level: 19

mutationtracker:[45, 114, 286, 6, 11, 38, 41, 155, 185, 47, 83, 124, 130, 96, 254, 75, 114, 221, 220]

cost: 1.9126782379244258

mutsum 126

mutsum2 657.0

sol 5 : level: 19

mutationtracker:[45, 114, 286, 6, 11, 38, 41, 155, 185, 68, 73, 76, 83, 124, 159, 205, 180, 129, 242]

cost: 2.229043041783368

mutsum 123

mutsum2 618.5

sol 6 : level: 19

mutationtracker:[45, 114, 286, 6, 11, 38, 41, 155, 185, 68, 73, 76, 124, 195, 147, 85, 7, 231, 54]

cost: 0.4859676820139874

mutsum 109

mutsum2 535.5

duration: 301.084 sec

Run 10: genome to sequence: [1, 5, 19, 13, 3, 20, 9, 7, 11, 23, 22, 12, 17, 8, 14, 16, 15, 25, 10, 18, 2, 24, 21, 4, 6]

sol 0 : level: 20

mutationtracker:[15, 26, 33, 64, 60, 89, 216, 51, 75, 72, 25, 54, 79, 107, 144, 171, 41, 237, 41, 249]

cost: 2.5094101194053113

mutsum 101

mutsum2 420.5

sol 1 : level: 19

mutationtracker:[15, 26, 33, 64, 60, 89, 216, 51, 75, 72, 54, 79, 107, 144, 257, 168, 25, 249, 91]

cost: 0.8021312440011134

mutsum 104

mutsum2 459.0

sol 2 : level: 19

mutationtracker:[15, 26, 33, 64, 60, 89, 216, 51, 75, 72, 54, 107, 144, 25, 171, 213, 249, 3, 81]

cost: 0.6429929431805148

mutsum 96

mutsum2 391.0

sol 3 : level: 19

mutationtracker:[15, 26, 33, 64, 60, 89, 216, 274, 60, 40, 18, 118, 51, 114, 121, 218, 44, 130, 181]

cost: 1.5936972897318717

mutsum 103

mutsum2 469.5

duration: 300.488 sec

Run 11: genome to sequence: [8, 4, 17, 1, 12, 24, 7, 21, 16, 10, 18, 23, 14, 15, 6, 9, 2, 20, 25, 22, 11, 5, 3, 13, 19]

sol 0 : level: 19

mutationtracker:[128, 47, 28, 252, 53, 50, 136, 73, 48, 239, 114, 78, 159, 86, 137, 118, 145, 144, 153]

cost: 1.278439316167919

mutsum 117

mutsum2 470.5

sol 1 : level: 19

mutationtracker:[128, 47, 28, 252, 53, 50, 136, 73, 48, 239, 114, 78, 6, 30, 159, 170, 125, 22, 67]

cost: 0.48506209359081415

mutsum 100

mutsum2 405.0

duration: 300.594 sec

Run 12: genome to sequence: [18, 10, 21, 22, 24, 23, 9, 12, 25, 17, 20, 6, 5, 1, 4, 11, 2, 14, 8, 15, 19, 7, 3, 16, 13]

sol 0 : level: 22

mutationtracker:[175, 263, 4, 18, 121, 13, 12, 57, 31, 71, 252, 130, 54, 173, 7, 218, 241, 129, 130, 131, 232, 288]

cost: 3.679507164356266

mutsum 159

mutsum2 913.5

sol 1 : level: 20

mutationtracker:[175, 263, 4, 18, 121, 13, 12, 57, 31, 71, 252, 130, 54, 173, 147, 112, 22, 281, 162, 234]

cost: 2.345818046207707

mutsum 134

mutsum2 746.0

sol 2 : level: 19

mutationtracker:[175, 263, 4, 18, 121, 13, 12, 57, 31, 71, 252, 130, 54, 110, 43, 202, 86, 262, 297]

cost: 3.654848009270633

mutsum 131

mutsum2 825.5

sol 3 : level: 19

mutationtracker:[175, 263, 4, 18, 121, 13, 12, 57, 31, 71, 252, 130, 191, 78, 22, 178, 110, 297, 155]

cost: 1.2794455255270007

mutsum 127

mutsum2 753.5

sol 4 : level: 19

mutationtracker:[175, 263, 4, 18, 121, 13, 12, 57, 31, 71, 252, 130, 7, 33, 191, 190, 127, 255, 232]

cost: 2.070810329385943

mutsum 124

mutsum2 673.0

sol 5 : level: 19

mutationtracker:[175, 263, 4, 18, 121, 13, 12, 57, 31, 71, 188, 1, 252, 183, 129, 22, 241, 162, 234]

cost: 2.229143662719276

mutsum 124

mutsum2 669.0

sol 6 : level: 19

mutationtracker:[175, 263, 4, 18, 121, 13, 12, 57, 31, 71, 188, 24, 252, 197, 98, 243, 54, 180, 272]

cost: 2.8632819635398747

mutsum 132

mutsum2 755.0

sol 7 : level: 19

mutationtracker:[175, 263, 4, 18, 121, 13, 57, 54, 71, 76, 91, 174, 66, 95, 19, 48, 250, 295, 264]

cost: 2.7045461464629086

mutsum 128

mutsum2 787.0

sol 8 : level: 19

mutationtracker:[175, 263, 4, 18, 121, 13, 57, 54, 71, 76, 91, 174, 95, 45, 286, 108, 264, 222, 14]

cost: 0.17091095032185097

mutsum 125

mutsum2 722.5

sol 9 : level: 19

mutationtracker:[175, 263, 4, 18, 121, 13, 57, 54, 71, 76, 91, 175, 34, 134, 48, 285, 44, 63, 145]

cost: 1.1189991525395964

mutsum 106

mutsum2 528.0

sol 10 : level: 19

mutationtracker:[175, 263, 4, 18, 121, 13, 57, 54, 71, 76, 174, 66, 19, 272, 102, 42, 45, 98, 178]

cost: 1.4352633354626303

mutsum 102

mutsum2 490.0

sol 11 : level: 17

mutationtracker:[175, 263, 4, 18, 121, 13, 57, 54, 71, 76, 175, 34, 193, 210, 98, 232, 264]

cost: 2.422124574756968

mutsum 116

mutsum2 619.0

duration: 303.986 sec

Run 13: genome to sequence: [2, 4, 11, 24, 22, 6, 8, 19, 3, 15, 16, 17, 12, 14, 5, 9, 7, 10, 21, 1, 13, 23, 18, 20, 25]

sol 0 : level: 20

mutationtracker:[153, 15, 14, 55, 71, 76, 87, 82, 116, 70, 91, 216, 6, 85, 8, 190, 69, 260, 88, 90]

cost: 0.8427434527386449

mutsum 101

mutsum2 395.5

duration: 300.063 sec

Run 14: genome to sequence: [21, 10, 16, 20, 5, 15, 11, 18, 14, 3, 9, 1, 24, 2, 12, 23, 19, 6, 25, 8, 17, 22, 4, 7, 13]

sol 0 : level: 24

mutationtracker:[213, 211, 8, 9, 30, 66, 40, 100, 94, 3, 48, 104, 127, 141, 156, 128, 109, 135, 0, 222, 103, 12, 124, 142]

cost: 1.4087886784752637

mutsum 124

mutsum2 466.0

sol 1 : level: 22

mutationtracker:[213, 211, 8, 9, 30, 66, 40, 111, 30, 251, 108, 102, 98, 110, 90, 121, 116, 51, 118, 179, 198, 293]

cost: 3.8616291299830334

mutsum 144

mutsum2 734.0

sol 2 : level: 22

mutationtracker:[213, 211, 8, 9, 30, 66, 40, 111, 30, 251, 108, 102, 111, 29, 2, 197, 59, 102, 180, 121, 128, 278]

cost: 3.3108215515119896

mutsum 134

mutsum2 657.0

sol 3 : level: 21

mutationtracker:[213, 211, 8, 9, 30, 66, 40, 111, 30, 251, 108, 110, 72, 166, 78, 147, 59, 76, 187, 128, 278]

cost: 3.1615170553180105

mutsum 133

mutsum2 647.5

sol 4 : level: 21

mutationtracker:[213, 211, 8, 9, 30, 66, 40, 111, 30, 251, 108, 110, 72, 166, 16, 224, 73, 179, 153, 195, 251]

cost: 2.637209810525109

mutsum 141

mutsum2 703.5

sol 5 : level: 21

mutationtracker:[213, 211, 8, 9, 30, 66, 40, 111, 30, 251, 108, 110, 90, 135, 156, 51, 58, 118, 179, 198, 293]

cost: 3.687123216124222

mutsum 140

mutsum2 734.0

sol 6 : level: 21

mutationtracker:[213, 211, 8, 9, 30, 66, 40, 111, 30, 251, 108, 111, 29, 133, 214, 71, 5, 52, 69, 221, 299]

cost: 4.211776838520673

mutsum 136

mutsum2 796.0

sol 7 : level: 21

mutationtracker:[213, 211, 8, 9, 30, 66, 40, 111, 30, 251, 110, 72, 166, 78, 147, 59, 76, 187, 270, 207, 221]

cost: 2.112469593727771

mutsum 144

mutsum2 732.0

sol 8 : level: 21

mutationtracker:[213, 211, 8, 9, 30, 66, 40, 111, 30, 251, 110, 72, 166, 220, 146, 132, 23, 287, 46, 47, 279]

cost: 3.3376427825295454

mutsum 146

mutsum2 861.0

duration: 304.115 sec

Run 15: genome to sequence: [16, 18, 3, 4, 5, 17, 2, 12, 13, 6, 20, 25, 11, 1, 9, 14, 21, 10, 22, 19, 23, 24, 7, 15, 8]

sol 0 : level: 25

mutationtracker:[49, 1, 16, 15, 23, 37, 76, 100, 54, 72, 138, 40, 63, 106, 162, 138, 146, 128, 47, 48, 49, 50, 51, 172, 214]

cost: 2.5070666666666668

mutsum 106

mutsum2 319.0

sol 1 : level: 24

mutationtracker:[49, 1, 16, 15, 23, 37, 76, 100, 54, 72, 138, 40, 63, 106, 162, 138, 146, 128, 3, 69, 49, 50, 187, 226]

cost: 2.6073711496889307

mutsum 104

mutsum2 336.0

sol 2 : level: 21

mutationtracker:[49, 1, 16, 15, 23, 37, 76, 100, 54, 72, 138, 40, 63, 106, 162, 138, 146, 47, 226, 256, 128]

cost: 1.0588326288905043

mutsum 102

mutsum2 401.0

sol 3 : level: 20

mutationtracker:[49, 1, 16, 15, 23, 37, 76, 100, 54, 72, 138, 40, 63, 106, 179, 99, 119, 147, 90, 201]

cost: 1.8413459102527077

mutsum 86

mutsum2 261.0

duration: 301.279 sec

Run 16: genome to sequence: [18, 20, 19, 17, 13, 23, 8, 9, 22, 1, 2, 12, 6, 7, 10, 14, 5, 3, 11, 16, 24, 15, 4, 25, 21]

sol 0 : level: 22

mutationtracker:[106, 1, 17, 21, 23, 29, 24, 84, 59, 114, 57, 90, 104, 127, 21, 42, 6, 172, 30, 87, 112, 287]

cost: 3.673934872906062

mutsum 90

mutsum2 368.0

sol 1 : level: 21

mutationtracker:[106, 1, 17, 21, 23, 29, 24, 84, 59, 114, 57, 90, 104, 127, 65, 66, 6, 172, 30, 112, 287]

cost: 3.50770690167897

mutsum 89

mutsum2 366.5

sol 2 : level: 20

mutationtracker:[106, 1, 17, 21, 23, 29, 24, 84, 59, 114, 57, 90, 104, 127, 186, 49, 144, 15, 41, 266]

cost: 2.841252740753645

mutsum 85

mutsum2 322.5

sol 3 : level: 20

mutationtracker:[106, 1, 17, 21, 23, 29, 24, 84, 59, 114, 57, 90, 98, 126, 22, 6, 261, 71, 190, 274]

cost: 3.0088511024109366

mutsum 95

mutsum2 445.5

sol 4 : level: 20

mutationtracker:[106, 1, 17, 21, 23, 29, 24, 84, 59, 114, 90, 126, 22, 57, 6, 261, 31, 136, 166, 229]

cost: 2.1749587520832283

mutsum 89

mutsum2 364.5

sol 5 : level: 20

mutationtracker:[106, 1, 17, 21, 23, 29, 24, 84, 59, 114, 90, 126, 22, 6, 98, 261, 171, 38, 197, 204]

cost: 1.8419980967461451

mutsum 93

mutsum2 384.5

sol 6 : level: 20

mutationtracker:[106, 1, 17, 21, 23, 29, 24, 84, 59, 114, 90, 126, 22, 98, 43, 257, 125, 56, 144, 177]

cost: 1.5080125769193742

mutsum 86

mutsum2 310.0

sol 7 : level: 19

mutationtracker:[106, 1, 17, 21, 23, 29, 24, 84, 59, 114, 90, 126, 98, 43, 257, 56, 160, 44, 67]

cost: 0.4826471911290187

mutsum 76

mutsum2 265.0

duration: 300.096 sec

Run 17: genome to sequence: [10, 14, 16, 24, 3, 20, 18, 12, 17, 7, 23, 19, 5, 11, 13, 6, 21, 2, 1, 22, 4, 25, 15, 8, 9]

sol 0 : level: 19

mutationtracker:[210, 120, 6, 96, 50, 7, 30, 68, 162, 14, 66, 80, 0, 247, 161, 47, 143, 222, 285]

cost: 3.178338695232011

mutsum 116

mutsum2 618.0

sol 1 : level: 18

mutationtracker:[210, 120, 6, 96, 50, 7, 30, 68, 162, 14, 66, 80, 65, 26, 224, 192, 255, 268]

cost: 2.5620033558534754

mutsum 110

mutsum2 573.0

sol 2 : level: 18

mutationtracker:[210, 120, 6, 96, 50, 7, 30, 68, 162, 14, 66, 0, 180, 269, 195, 90, 251, 73]

cost: 0.6117851130197758

mutsum 108

mutsum2 540.0

sol 3 : level: 18

mutationtracker:[210, 120, 6, 96, 50, 7, 30, 68, 162, 14, 0, 80, 247, 47, 234, 66, 290, 21]

cost: 0.16134862735237668

mutsum 104

mutsum2 596.0

sol 4 : level: 18

mutationtracker:[210, 120, 6, 96, 50, 7, 30, 68, 162, 14, 215, 52, 78, 71, 0, 189, 242, 180]

cost: 1.5109121416849776

mutsum 100

mutsum2 438.0

sol 5 : level: 18

mutationtracker:[210, 120, 6, 96, 50, 7, 30, 68, 162, 66, 0, 247, 161, 268, 180, 20, 86, 191]

cost: 1.5120033558534753

mutsum 110

mutsum2 549.0

duration: 302.720 sec

Run 18: genome to sequence: [2, 5, 19, 10, 12, 18, 22, 20, 1, 16, 6, 25, 21, 14, 4, 7, 11, 3, 23, 24, 15, 9, 17, 13, 8]

sol 0 : level: 25

mutationtracker:[26, 39, 46, 28, 87, 77, 52, 254, 114, 2, 123, 43, 126, 13, 211, 14, 25, 40, 59, 122, 47, 67, 88, 283, 69]

cost: 0.841

mutsum 115

mutsum2 502.5

sol 1 : level: 24

mutationtracker:[26, 39, 46, 28, 87, 77, 52, 254, 114, 2, 123, 43, 126, 13, 211, 14, 25, 85, 102, 159, 20, 283, 90, 110]

cost: 1.2084342962786807

mutsum 119

mutsum2 536.5

sol 2 : level: 23

mutationtracker:[26, 39, 46, 28, 87, 77, 52, 254, 114, 2, 123, 43, 126, 13, 211, 14, 25, 81, 17, 123, 209, 222, 277]

cost: 3.4594435875931646

mutsum 125

mutsum2 617.5

sol 3 : level: 22

mutationtracker:[26, 39, 46, 28, 87, 77, 52, 254, 114, 2, 123, 43, 126, 13, 211, 25, 104, 36, 82, 209, 196, 277]

cost: 3.3098524573467367

mutsum 122

mutsum2 589.0

sol 4 : level: 22

mutationtracker:[26, 39, 46, 28, 87, 77, 52, 254, 114, 2, 123, 43, 126, 13, 211, 104, 102, 16, 25, 283, 195, 209]

cost: 2.209933215193841

mutsum 123

mutsum2 610.5

sol 5 : level: 22

mutationtracker:[26, 39, 46, 28, 87, 147, 32, 80, 168, 60, 12, 104, 19, 89, 86, 101, 9, 52, 214, 238, 273, 223]

cost: 2.3929435171387565

mutsum 119

mutsum2 566.5

sol 6 : level: 22

mutationtracker:[26, 39, 46, 28, 87, 77, 52, 254, 114, 2, 123, 126, 185, 3, 27, 41, 92, 67, 253, 151, 48, 0]

cost: 0.19165139158508632

mutsum 103

mutsum2 416.5

sol 7 : level: 21

mutationtracker:[26, 39, 46, 28, 87, 147, 120, 32, 29, 7, 189, 88, 62, 65, 82, 116, 235, 60, 146, 133, 176]

cost: 1.5837460344896173

mutsum 101

mutsum2 355.5

sol 8 : level: 20

mutationtracker:[26, 39, 149, 45, 97, 69, 6, 48, 95, 269, 28, 169, 89, 92, 30, 133, 228, 127, 16, 283]

cost: 3.177567498056978

mutsum 117

mutsum2 593.5

duration: 300.457 sec

Run 19: genome to sequence: [18, 21, 16, 25, 13, 17, 8, 23, 15, 22, 20, 14, 10, 7, 9, 5, 3, 11, 2, 1, 12, 6, 4, 24, 19]

sol 0 : level: 21

mutationtracker:[106, 7, 12, 26, 149, 96, 1, 41, 60, 64, 58, 52, 165, 54, 262, 55, 141, 6, 228, 128, 264]

cost: 2.984698572899377

mutsum 112

mutsum2 530.0

sol 1 : level: 21

mutationtracker:[106, 7, 12, 26, 149, 96, 1, 41, 60, 64, 58, 52, 165, 66, 140, 90, 180, 277, 289, 47, 294]

cost: 3.8616036497188984

mutsum 134

mutsum2 821.0

sol 2 : level: 19

mutationtracker:[106, 7, 12, 26, 149, 96, 1, 41, 60, 52, 144, 64, 165, 54, 262, 96, 174, 128, 264]

cost: 2.7023324858729296

mutsum 106

mutsum2 489.0

sol 3 : level: 19

mutationtracker:[106, 7, 12, 26, 149, 96, 1, 41, 60, 64, 52, 165, 215, 87, 46, 57, 290, 242, 276]

cost: 2.8617726495012525

mutsum 117

mutsum2 683.5

sol 4 : level: 19

mutationtracker:[106, 7, 12, 26, 149, 96, 41, 64, 60, 58, 52, 165, 7, 243, 31, 222, 268, 128, 102]

cost: 0.8020306230652052

mutsum 103

mutsum2 480.5

duration: 300.276 sec

Run 20: genome to sequence: [16, 8, 18, 22, 10, 11, 4, 13, 7, 15, 9, 17, 23, 3, 1, 21, 12, 5, 20, 19, 25, 14, 24, 2, 6]

sol 0 : level: 18

mutationtracker:[149, 25, 177, 202, 10, 22, 38, 75, 71, 105, 119, 162, 161, 171, 17, 94, 244, 245]

cost: 2.262330720104025

mutsum 113

mutsum2 512.5

sol 1 : level: 18

mutationtracker:[149, 25, 177, 202, 10, 22, 38, 75, 71, 105, 202, 19, 94, 120, 10, 221, 245, 27]

cost: 0.3109121416849776

mutsum 100

mutsum2 445.0

sol 2 : level: 18

mutationtracker:[149, 25, 177, 202, 10, 22, 38, 75, 71, 105, 9, 233, 33, 73, 90, 234, 123, 119]

cost: 0.910693898851278

mutsum 98

mutsum2 408.0

duration: 300.499 sec

Run 21: genome to sequence: [3, 23, 20, 4, 14, 13, 10, 17, 25, 6, 15, 8, 18, 1, 5, 22, 19, 7, 9, 2, 16, 11, 21, 12, 24]

sol 0 : level: 19

mutationtracker:[224, 175, 22, 44, 55, 133, 79, 9, 127, 135, 95, 129, 164, 288, 146, 163, 204, 78, 168]

cost: 1.4383825844757827

mutsum 133

mutsum2 650.5

duration: 301.084 sec

Run 22: genome to sequence: [13, 14, 18, 10, 11, 19, 22, 5, 1, 12, 21, 16, 4, 24, 20, 23, 17, 25, 15, 9, 7, 2, 6, 3, 8]

sol 0 : level: 19

mutationtracker:[21, 147, 13, 27, 34, 38, 36, 67, 74, 56, 55, 89, 112, 99, 62, 163, 230, 183, 48]

cost: 0.4833515376803757

mutsum 83

mutsum2 276.5

sol 1 : level: 19

mutationtracker:[21, 147, 13, 27, 34, 38, 36, 67, 97, 89, 103, 78, 194, 235, 104, 20, 43, 133, 238]

cost: 2.2259237927702156

mutsum 92

mutsum2 372.0

sol 2 : level: 19

mutationtracker:[21, 147, 13, 27, 34, 38, 36, 67, 97, 89, 103, 194, 131, 31, 235, 20, 189, 198, 43]

cost: 0.3259237927702156

mutsum 92

mutsum2 366.0

duration: 300.278 sec

Run 23: genome to sequence: [22, 2, 1, 24, 20, 8, 10, 21, 6, 7, 4, 19, 17, 5, 25, 13, 3, 16, 18, 12, 9, 23, 14, 11, 15]

sol 0 : level: 23

mutationtracker:[22, 24, 28, 268, 3, 37, 118, 63, 56, 31, 100, 137, 52, 156, 112, 179, 26, 2, 17, 213, 40, 224, 296]

cost: 4.226487997763558

mutsum 130

mutsum2 716.0

sol 1 : level: 22

mutationtracker:[22, 24, 28, 268, 3, 37, 118, 63, 56, 31, 100, 137, 52, 156, 112, 179, 109, 3, 146, 284, 167, 112]

cost: 1.1100139730409453

mutsum 124

mutsum2 589.0

sol 2 : level: 22

mutationtracker:[22, 24, 28, 268, 3, 37, 118, 63, 56, 31, 100, 179, 125, 176, 98, 135, 170, 145, 26, 108, 214, 292]

cost: 3.860983067206198

mutsum 136

mutsum2 701.0

sol 3 : level: 22

mutationtracker:[22, 24, 28, 268, 3, 37, 118, 63, 56, 31, 100, 179, 125, 176, 135, 170, 185, 220, 34, 131, 262, 247]

cost: 2.7617906456772423

mutsum 146

mutsum2 746.0

sol 4 : level: 22

mutationtracker:[22, 24, 28, 268, 3, 37, 118, 63, 56, 31, 100, 179, 125, 176, 6, 117, 170, 185, 207, 182, 232, 266]

cost: 3.1283765544968043

mutsum 145

mutsum2 740.5

sol 5 : level: 22

mutationtracker:[22, 24, 28, 268, 3, 37, 118, 63, 97, 35, 37, 52, 156, 112, 21, 267, 66, 33, 112, 109, 173, 254]

cost: 2.759529425958319

mutsum 118

mutsum2 580.0

sol 6 : level: 22

mutationtracker:[22, 24, 28, 268, 3, 37, 118, 63, 97, 35, 37, 52, 156, 112, 23, 192, 183, 26, 104, 239, 149, 208]

cost: 2.026438366166299

mutsum 121

mutsum2 550.5

sol 7 : level: 21

mutationtracker:[22, 24, 28, 268, 3, 37, 118, 63, 97, 35, 37, 52, 179, 172, 17, 30, 86, 194, 186, 296, 68]

cost: 0.5350449505029267

mutsum 116

mutsum2 633.0

sol 8 : level: 21

mutationtracker:[22, 24, 28, 268, 3, 37, 118, 63, 97, 35, 37, 52, 166, 102, 39, 128, 20, 203, 239, 43, 284]

cost: 3.3349583561020397

mutsum 115

mutsum2 609.5

sol 9 : level: 21

mutationtracker:[22, 24, 28, 268, 3, 37, 118, 63, 97, 35, 37, 52, 166, 21, 36, 240, 52, 66, 179, 68, 204]

cost: 1.9337460344896171

mutsum 101

mutsum2 450.5

duration: 304.208 sec

Run 24: genome to sequence: [21, 4, 24, 5, 23, 13, 3, 22, 10, 12, 11, 25, 17, 1, 20, 6, 18, 8, 15, 7, 9, 2, 14, 19, 16]

sol 0 : level: 19

mutationtracker:[2, 222, 230, 171, 296, 14, 212, 4, 22, 39, 184, 159, 96, 53, 148, 120, 127, 200, 277]

cost: 2.865093140386221

mutsum 150

mutsum2 917.0

sol 1 : level: 17

mutationtracker:[2, 222, 230, 171, 296, 14, 212, 4, 22, 39, 184, 6, 270, 156, 160, 86, 246]

cost: 2.1414068216936344

mutsum 138

mutsum2 907.0

sol 2 : level: 17

mutationtracker:[2, 222, 230, 171, 296, 14, 212, 4, 22, 39, 80, 178, 22, 86, 171, 246, 135]

cost: 1.006409028188483

mutsum 124

mutsum2 762.0

duration: 302.343 sec

Run 25: genome to sequence: [21, 8, 15, 20, 10, 13, 18, 5, 22, 23, 17, 4, 25, 12, 19, 1, 14, 24, 2, 9, 3, 16, 7, 6, 11]

sol 0 : level: 18

mutationtracker:[54, 135, 271, 131, 12, 28, 60, 155, 80, 245, 96, 58, 104, 43, 22, 178, 145, 212]

cost: 1.8121124772703252

mutsum 111

mutsum2 526.5

sol 1 : level: 17

mutationtracker:[54, 135, 271, 131, 12, 28, 60, 155, 80, 245, 96, 20, 176, 83, 88, 220, 212]

cost: 1.7135534613990893

mutsum 114

mutsum2 571.0

sol 2 : level: 17

mutationtracker:[54, 135, 271, 131, 12, 28, 60, 155, 80, 245, 20, 84, 198, 96, 50, 288, 269]

cost: 2.4235512549042406

mutsum 128

mutsum2 788.0

sol 3 : level: 17

mutationtracker:[54, 135, 271, 131, 12, 28, 60, 155, 94, 48, 80, 123, 20, 281, 110, 288, 45]

cost: 0.2968867947324225

mutsum 114

mutsum2 681.0

sol 4 : level: 17

mutationtracker:[54, 135, 271, 131, 12, 28, 60, 78, 84, 36, 88, 133, 110, 172, 27, 240, 72]

cost: 0.5780801078448471

mutsum 96

mutsum2 422.0

duration: 301.598 sec

Run 26: genome to sequence: [12, 5, 25, 1, 13, 24, 17, 21, 15, 3, 8, 4, 16, 10, 11, 22, 2, 19, 14, 7, 6, 9, 23, 18, 20]

sol 0 : level: 24

mutationtracker:[47, 262, 20, 176, 29, 34, 68, 66, 91, 116, 139, 10, 115, 144, 1, 235, 4, 5, 135, 116, 46, 45, 142, 177]

cost: 1.8085760491573137

mutsum 121

mutsum2 495.5

sol 1 : level: 23

mutationtracker:[47, 262, 20, 176, 29, 34, 68, 66, 91, 116, 139, 10, 115, 144, 1, 235, 4, 23, 152, 134, 46, 160, 193]

cost: 1.9259591568583407

mutsum 123

mutsum2 524.5

sol 2 : level: 23

mutationtracker:[47, 262, 20, 176, 29, 34, 68, 66, 91, 116, 139, 10, 115, 144, 1, 235, 194, 163, 4, 5, 6, 154, 136]

cost: 1.3508836081575952

mutsum 122

mutsum2 523.0

sol 3 : level: 23

mutationtracker:[47, 262, 20, 176, 29, 34, 68, 66, 91, 116, 139, 10, 115, 144, 1, 235, 21, 68, 4, 152, 134, 160, 161]

cost: 1.5425502748242619

mutsum 122

mutsum2 509.0

sol 4 : level: 22

mutationtracker:[47, 262, 20, 176, 29, 34, 68, 66, 91, 116, 139, 10, 115, 144, 1, 235, 152, 168, 46, 45, 142, 177]

cost: 1.659933215193841

mutsum 123

mutsum2 524.5

sol 5 : level: 22

mutationtracker:[47, 262, 20, 176, 29, 34, 68, 66, 91, 116, 139, 10, 115, 144, 12, 13, 14, 223, 46, 145, 82, 108]

cost: 0.9251462406126284

mutsum 105

mutsum2 417.5

sol 6 : level: 22

mutationtracker:[47, 262, 20, 176, 29, 34, 68, 66, 91, 116, 139, 10, 144, 3, 134, 27, 235, 194, 13, 14, 23, 163]

cost: 1.4755500298481505

mutsum 110

mutsum2 475.0

sol 7 : level: 21

mutationtracker:[47, 262, 20, 176, 29, 34, 68, 66, 91, 116, 139, 144, 181, 100, 1, 77, 165, 46, 191, 67, 220]

cost: 2.1103913281064757

mutsum 120

mutsum2 506.0

sol 8 : level: 21

mutationtracker:[47, 262, 20, 176, 29, 34, 68, 66, 91, 116, 139, 144, 181, 23, 1, 208, 179, 8, 139, 77, 165]

cost: 1.585131544903814

mutsum 117

mutsum2 491.5

sol 9 : level: 20

mutationtracker:[47, 262, 20, 176, 29, 34, 68, 66, 91, 116, 139, 134, 29, 91, 179, 39, 214, 91, 136, 223]

cost: 2.177753837055103

mutsum 119

mutsum2 516.5

sol 10 : level: 20

mutationtracker:[47, 262, 20, 176, 29, 34, 68, 66, 91, 116, 144, 13, 134, 20, 203, 150, 148, 221, 79, 298]

cost: 3.8456317072095825

mutsum 132

mutsum2 736.0

sol 11 : level: 20

mutationtracker:[47, 262, 20, 176, 29, 34, 68, 66, 91, 116, 144, 235, 14, 2, 133, 143, 119, 11, 208, 9]

cost: 0.17654263356729072

mutsum 106

mutsum2 469.0

sol 12 : level: 20

mutationtracker:[47, 262, 20, 176, 29, 34, 68, 66, 91, 116, 144, 235, 194, 2, 133, 17, 23, 173, 80, 163]

cost: 1.3437683172283323

mutsum 112

mutsum2 496.0

sol 13 : level: 19

mutationtracker:[47, 262, 20, 176, 29, 34, 68, 91, 103, 78, 14, 74, 126, 185, 176, 223, 13, 160, 208]

cost: 1.7530368324242867

mutsum 113

mutsum2 509.5

duration: 302.081 sec

Run 27: genome to sequence: [22, 6, 18, 5, 13, 2, 20, 17, 1, 15, 23, 14, 9, 16, 3, 24, 4, 25, 10, 11, 19, 7, 12, 21, 8]

sol 0 : level: 22

mutationtracker:[15, 2, 10, 30, 44, 46, 50, 56, 98, 177, 22, 75, 128, 169, 48, 24, 92, 156, 112, 21, 259, 287]

cost: 3.6755500298481505

mutsum 110

mutsum2 534.0

sol 1 : level: 22

mutationtracker:[15, 2, 10, 45, 44, 80, 30, 50, 56, 61, 95, 5, 50, 110, 241, 96, 157, 43, 44, 194, 135, 170]

cost: 1.6575912376278132

mutsum 94

mutsum2 326.0

sol 2 : level: 22

mutationtracker:[15, 2, 10, 45, 44, 80, 30, 50, 56, 61, 95, 5, 50, 110, 241, 84, 85, 96, 190, 163, 170, 201]

cost: 2.024903967071315

mutsum 102

mutsum2 374.0

sol 3 : level: 22

mutationtracker:[15, 2, 10, 45, 80, 258, 39, 17, 52, 64, 21, 57, 14, 90, 106, 102, 156, 93, 209, 208, 153, 233]

cost: 2.3922974543619215

mutsum 111

mutsum2 487.5

sol 4 : level: 22

mutationtracker:[15, 2, 10, 45, 80, 258, 39, 17, 52, 64, 21, 57, 14, 90, 106, 156, 132, 58, 231, 284, 209, 77]

cost: 0.742620485750339

mutsum 115

mutsum2 587.5

sol 5 : level: 22

mutationtracker:[15, 2, 10, 45, 80, 258, 39, 17, 52, 64, 21, 57, 14, 90, 106, 150, 219, 90, 278, 183, 212, 245]

cost: 2.760417762276467

mutsum 129

mutsum2 694.5

sol 6 : level: 22

mutationtracker:[15, 2, 10, 45, 80, 258, 39, 17, 64, 21, 106, 57, 14, 102, 52, 156, 27, 209, 97, 242, 68, 289]

cost: 3.6757923033894637

mutsum 113

mutsum2 602.5

sol 7 : level: 22

mutationtracker:[15, 2, 10, 45, 80, 258, 39, 65, 16, 17, 64, 52, 57, 14, 90, 119, 142, 134, 3, 147, 254, 75]

cost: 0.7410053288082511

mutsum 95

mutsum2 393.5

duration: 302.860 sec

Run 28: genome to sequence: [2, 10, 11, 1, 21, 17, 23, 15, 12, 16, 7, 4, 3, 9, 19, 6, 8, 14, 24, 18, 20, 13, 22, 25, 5]

sol 0 : level: 18

mutationtracker:[196, 187, 4, 23, 41, 44, 32, 230, 45, 52, 78, 220, 183, 13, 103, 47, 249, 69]

cost: 0.6110212631018274

mutsum 101

mutsum2 476.5

sol 1 : level: 18

mutationtracker:[196, 187, 4, 23, 41, 44, 32, 230, 45, 52, 78, 199, 47, 69, 20, 260, 28, 108]

cost: 0.7601482917670291

mutsum 93

mutsum2 432.5

duration: 300.984 sec

Run 29: genome to sequence: [7, 8, 9, 18, 17, 2, 16, 10, 15, 23, 11, 4, 3, 5, 24, 20, 22, 21, 13, 14, 1, 19, 6, 25, 12]

sol 0 : level: 16

mutationtracker:[161, 6, 11, 19, 50, 114, 8, 100, 109, 89, 239, 66, 83, 98, 129, 222]

cost: 1.7438802083333333

mutsum 81

mutsum2 321.5

sol 1 : level: 16

mutationtracker:[161, 6, 11, 19, 50, 114, 8, 100, 109, 180, 41, 89, 239, 66, 188, 272]

cost: 2.411979166666667

mutsum 92

mutsum2 456.0

sol 2 : level: 16

mutationtracker:[161, 6, 11, 19, 50, 114, 8, 100, 191, 135, 14, 23, 22, 269, 90, 195]

cost: 1.476953125

mutsum 79

mutsum2 362.5

sol 3 : level: 16

mutationtracker:[161, 6, 11, 19, 50, 114, 8, 100, 191, 46, 23, 269, 90, 143, 195, 12]

cost: 0.14375

mutsum 80

mutsum2 364.0

duration: 301.235 sec

Run 30: genome to sequence: [7, 20, 9, 25, 21, 6, 16, 2, 19, 11, 3, 14, 8, 12, 18, 22, 23, 5, 24, 10, 4, 13, 15, 17, 1]

sol 0 : level: 19

mutationtracker:[175, 156, 262, 225, 223, 5, 2, 85, 98, 117, 140, 122, 166, 115, 21, 105, 179, 200, 110]

cost: 0.9636844472835072

mutsum 136

mutsum2 642.0

sol 1 : level: 19

mutationtracker:[175, 156, 262, 225, 223, 5, 2, 85, 98, 117, 140, 126, 128, 166, 102, 44, 239, 110, 252]

cost: 2.3896906566425886

mutsum 146

mutsum2 753.0

sol 2 : level: 19

mutationtracker:[175, 156, 262, 225, 223, 5, 2, 85, 98, 117, 21, 124, 101, 81, 166, 179, 200, 110, 120]

cost: 0.9633825844757827

mutsum 133

mutsum2 625.5

sol 3 : level: 19

mutationtracker:[175, 156, 262, 225, 223, 5, 2, 85, 98, 117, 19, 109, 124, 78, 33, 107, 236, 110, 47]

cost: 0.4872757541807932

mutsum 122

mutsum2 583.0

sol 4 : level: 19

mutationtracker:[175, 156, 262, 225, 223, 5, 2, 85, 98, 117, 18, 89, 143, 78, 33, 59, 236, 110, 127]

cost: 0.9623763751167014

mutsum 123

mutsum2 590.5

duration: 301.381 sec

Run 31: genome to sequence: [5, 11, 24, 18, 8, 2, 14, 20, 17, 13, 21, 1, 10, 23, 22, 7, 4, 16, 3, 15, 25, 9, 6, 19, 12]

sol 0 : level: 20

mutationtracker:[17, 31, 182, 47, 75, 89, 111, 126, 102, 134, 3, 198, 157, 19, 6, 32, 261, 92, 172, 253]

cost: 2.510900831390311

mutsum 117

mutsum2 535.5

sol 1 : level: 20

mutationtracker:[17, 31, 182, 47, 75, 89, 111, 126, 102, 134, 3, 198, 157, 188, 170, 124, 45, 22, 270, 92]

cost: 0.8443273342227073

mutsum 118

mutsum2 507.0

sol 2 : level: 20

mutationtracker:[17, 31, 182, 47, 75, 89, 111, 126, 102, 134, 3, 198, 157, 6, 32, 261, 92, 253, 178, 14]

cost: 0.17756749805697813

mutsum 117

mutsum2 535.5

sol 3 : level: 19

mutationtracker:[17, 31, 182, 47, 75, 89, 111, 126, 102, 134, 3, 198, 188, 6, 64, 261, 92, 253, 207]

cost: 1.7538417999115516

mutsum 121

mutsum2 575.5

sol 4 : level: 19

mutationtracker:[17, 31, 182, 47, 75, 89, 126, 102, 116, 13, 184, 157, 19, 132, 91, 54, 220, 76, 197]

cost: 1.7520306230652052

mutsum 103

mutsum2 386.5

duration: 301.586 sec

Run 32: genome to sequence: [17, 22, 4, 9, 7, 3, 21, 23, 6, 10, 11, 14, 25, 2, 5, 16, 15, 24, 13, 18, 8, 1, 20, 19, 12]

sol 0 : level: 23

mutationtracker:[81, 27, 52, 67, 70, 210, 8, 59, 34, 108, 40, 157, 10, 28, 133, 23, 44, 231, 47, 133, 195, 221, 299]

cost: 4.609972428498382

mutsum 132

mutsum2 716.0

sol 1 : level: 22

mutationtracker:[81, 27, 52, 67, 70, 210, 8, 59, 34, 108, 40, 157, 10, 28, 133, 89, 189, 254, 133, 47, 195, 299]

cost: 4.410740793664885

mutsum 133

mutsum2 727.5

sol 2 : level: 19

mutationtracker:[81, 27, 52, 67, 70, 210, 8, 59, 34, 108, 40, 157, 10, 44, 279, 126, 163, 208, 263]

cost: 2.5446028781550454

mutsum 112

mutsum2 574.0

sol 3 : level: 18

mutationtracker:[81, 27, 52, 67, 70, 210, 8, 59, 34, 108, 40, 171, 38, 104, 179, 184, 255, 209]

cost: 1.8113486273523767

mutsum 104

mutsum2 466.0

sol 4 : level: 18

mutationtracker:[81, 27, 52, 67, 70, 210, 8, 59, 34, 108, 139, 18, 216, 179, 213, 255, 114, 180]

cost: 1.512221598687175

mutsum 112

mutsum2 524.0

sol 5 : level: 18

mutationtracker:[81, 27, 52, 67, 70, 210, 109, 59, 34, 85, 8, 171, 83, 106, 146, 255, 182, 181]

cost: 1.5113486273523766

mutsum 104

mutsum2 440.0

duration: 300.487 sec

Run 33: genome to sequence: [2, 4, 24, 10, 15, 7, 14, 20, 17, 13, 21, 3, 19, 23, 8, 25, 16, 12, 18, 9, 6, 11, 5, 1, 22]

sol 0 : level: 22

mutationtracker:[31, 172, 4, 249, 21, 31, 62, 66, 92, 1, 54, 34, 74, 29, 23, 206, 89, 98, 24, 129, 239, 285]

cost: 3.676115334777881

mutsum 117

mutsum2 602.5

sol 1 : level: 22

mutationtracker:[31, 172, 4, 249, 21, 31, 62, 110, 6, 66, 253, 68, 128, 147, 115, 156, 127, 4, 5, 6, 187, 127]

cost: 1.1092063945699013

mutsum 114

mutsum2 490.0

sol 2 : level: 22

mutationtracker:[31, 172, 4, 249, 21, 31, 62, 110, 6, 66, 253, 68, 128, 147, 115, 8, 139, 108, 29, 51, 202, 108]

cost: 0.9259538190836724

mutsum 115

mutsum2 487.5

sol 3 : level: 21

mutationtracker:[31, 172, 4, 249, 21, 31, 62, 110, 6, 66, 253, 68, 128, 147, 115, 219, 79, 118, 51, 28, 262]

cost: 2.810737705710025

mutsum 124

mutsum2 603.0

sol 4 : level: 21

mutationtracker:[31, 172, 4, 249, 21, 31, 62, 110, 6, 66, 253, 68, 128, 147, 33, 156, 187, 74, 51, 262, 242]

cost: 2.461430460917123

mutsum 132

mutsum2 675.0

sol 5 : level: 21

mutationtracker:[31, 172, 4, 249, 21, 31, 62, 110, 6, 253, 68, 74, 4, 123, 239, 157, 128, 0, 131, 139, 264]

cost: 2.9861706777144614

mutsum 129

mutsum2 666.5

sol 6 : level: 19

mutationtracker:[31, 172, 4, 249, 21, 31, 62, 110, 6, 253, 68, 74, 4, 123, 153, 71, 234, 158, 128]

cost: 0.9609676820139873

mutsum 109

mutsum2 512.5

duration: 301.412 sec

Run 34: genome to sequence: [25, 19, 13, 20, 12, 23, 15, 6, 18, 22, 5, 14, 9, 4, 24, 7, 17, 10, 11, 3, 8, 16, 21, 1, 2]

sol 0 : level: 24

mutationtracker:[2, 85, 60, 32, 52, 55, 59, 63, 130, 167, 24, 121, 18, 89, 0, 147, 50, 252, 24, 72, 8, 164, 244, 296]

cost: 4.409213937111163

mutsum 130

mutsum2 667.0

sol 1 : level: 22

mutationtracker:[2, 85, 60, 32, 52, 55, 59, 63, 130, 167, 24, 121, 18, 89, 0, 147, 23, 110, 276, 89, 284, 299]

cost: 4.410660035817781

mutsum 132

mutsum2 816.0

sol 2 : level: 20

mutationtracker:[2, 85, 60, 32, 52, 55, 59, 63, 130, 167, 24, 121, 18, 89, 23, 261, 71, 266, 179, 234]

cost: 2.3437683172283323

mutsum 112

mutsum2 546.0

sol 3 : level: 20

mutationtracker:[2, 85, 60, 32, 52, 55, 59, 63, 130, 167, 24, 23, 87, 121, 173, 53, 190, 296, 234, 209]

cost: 2.0112735093865615

mutsum 121

mutsum2 633.5

sol 4 : level: 20

mutationtracker:[2, 85, 60, 32, 52, 55, 59, 63, 130, 167, 121, 18, 89, 130, 91, 252, 147, 52, 284, 280]

cost: 3.1783128540494783

mutsum 125

mutsum2 671.5

sol 5 : level: 20

mutationtracker:[2, 85, 60, 32, 52, 55, 59, 63, 130, 167, 121, 18, 130, 91, 44, 229, 51, 23, 299, 236]

cost: 2.3439546562264573

mutsum 114

mutsum2 631.0

sol 6 : level: 19

mutationtracker:[2, 85, 60, 32, 52, 55, 59, 63, 130, 196, 156, 18, 106, 117, 23, 87, 299, 201, 64]

cost: 0.4853639563985385

mutsum 103

mutsum2 542.5

duration: 305.417 sec

Run 35: genome to sequence: [6, 11, 17, 18, 12, 10, 22, 5, 14, 3, 13, 25, 19, 23, 9, 15, 2, 8, 1, 24, 20, 4, 21, 7, 16]

sol 0 : level: 22

mutationtracker:[119, 75, 141, 205, 17, 26, 48, 88, 99, 13, 18, 264, 146, 121, 98, 5, 29, 46, 128, 68, 250, 89]

cost: 0.7424589700561303

mutsum 113

mutsum2 486.5

sol 1 : level: 22

mutationtracker:[119, 75, 141, 205, 17, 26, 48, 88, 99, 13, 18, 264, 146, 121, 98, 6, 46, 128, 6, 250, 109, 128]

cost: 1.1093679102641103

mutsum 116

mutsum2 503.0

sol 2 : level: 20

mutationtracker:[119, 75, 141, 205, 17, 26, 48, 88, 99, 13, 18, 264, 146, 121, 117, 82, 60, 146, 41, 239]

cost: 2.34367514772927

mutsum 111

mutsum2 481.5

sol 3 : level: 20

mutationtracker:[119, 75, 141, 205, 17, 26, 48, 88, 99, 13, 18, 264, 5, 169, 123, 145, 59, 99, 115, 179]

cost: 1.510062305898749

mutsum 108

mutsum2 443.0

sol 4 : level: 19

mutationtracker:[119, 75, 141, 205, 108, 26, 99, 13, 48, 209, 127, 0, 164, 187, 146, 60, 123, 184, 195]

cost: 1.7536405580397354

mutsum 119

mutsum2 481.5

sol 5 : level: 19

mutationtracker:[119, 75, 141, 205, 108, 26, 99, 13, 48, 209, 186, 140, 109, 228, 93, 0, 24, 285, 89]

cost: 0.6457097084500347

mutsum 123

mutsum2 609.5

sol 6 : level: 19

mutationtracker:[119, 75, 141, 205, 108, 26, 99, 13, 48, 209, 186, 167, 232, 180, 58, 99, 6, 263, 201]

cost: 1.7551498720783576

mutsum 134

mutsum2 646.0

sol 7 : level: 19

mutationtracker:[119, 75, 141, 205, 108, 26, 99, 13, 113, 127, 139, 120, 146, 201, 141, 181, 59, 90, 170]

cost: 1.4368732704371607

mutsum 118

mutsum2 434.0

sol 8 : level: 19

mutationtracker:[119, 75, 141, 205, 108, 26, 99, 13, 113, 127, 160, 101, 8, 244, 75, 147, 77, 264, 53]

cost: 0.4867726495012525

mutsum 117

mutsum2 514.5

sol 9 : level: 19

mutationtracker:[119, 75, 141, 205, 108, 26, 99, 13, 113, 186, 148, 157, 57, 107, 126, 178, 169, 90, 179]

cost: 1.4369738913730687

mutsum 119

mutsum2 439.5

duration: 301.220 sec

Run 36: genome to sequence: [6, 11, 25, 7, 12, 18, 22, 15, 20, 8, 24, 3, 5, 4, 10, 2, 14, 17, 16, 9, 13, 21, 19, 23, 1]

sol 0 : level: 20

mutationtracker:[25, 131, 251, 14, 28, 30, 32, 217, 50, 59, 34, 114, 146, 121, 140, 188, 208, 77, 129, 209]

cost: 2.0112735093865615

mutsum 121

mutsum2 528.5

sol 1 : level: 19

mutationtracker:[25, 131, 251, 14, 28, 30, 32, 217, 50, 59, 34, 114, 146, 188, 137, 164, 234, 13, 208]

cost: 1.753338695232011

mutsum 116

mutsum2 545.0

sol 2 : level: 19

mutationtracker:[25, 131, 251, 14, 28, 30, 32, 217, 50, 59, 34, 114, 11, 193, 98, 263, 46, 147, 196]

cost: 1.7527349696165622

mutsum 110

mutsum2 532.0

sol 3 : level: 18

mutationtracker:[25, 131, 251, 14, 28, 30, 32, 217, 50, 59, 146, 122, 157, 114, 180, 245, 103, 208]

cost: 1.6627672057714238

mutsum 117

mutsum2 554.5

duration: 300.692 sec

Run 37: genome to sequence: [2, 13, 15, 14, 18, 9, 23, 19, 3, 25, 24, 10, 6, 12, 17, 16, 22, 5, 11, 20, 8, 1, 4, 21, 7]

sol 0 : level: 25

mutationtracker:[67, 64, 141, 2, 29, 54, 103, 148, 57, 136, 137, 23, 66, 163, 69, 260, 90, 30, 93, 9, 75, 55, 56, 208, 244]

cost: 2.9252666666666665

mutsum 129

mutsum2 514.5

sol 1 : level: 24

mutationtracker:[67, 64, 141, 2, 29, 54, 103, 148, 57, 136, 137, 23, 66, 163, 69, 260, 90, 53, 113, 54, 55, 56, 208, 244]

cost: 2.8091430606718473

mutsum 129

mutsum2 518.5

sol 2 : level: 19

mutationtracker:[67, 64, 141, 2, 29, 54, 103, 148, 57, 136, 137, 23, 66, 163, 69, 260, 90, 278, 293]

cost: 3.3375776169885176

mutsum 125

mutsum2 706.5

sol 3 : level: 19

mutationtracker:[67, 64, 141, 2, 29, 54, 103, 148, 57, 83, 152, 200, 120, 157, 88, 89, 0, 296, 24]

cost: 0.3272318649370215

mutsum 105

mutsum2 500.5

sol 4 : level: 19

mutationtracker:[67, 64, 141, 2, 29, 54, 103, 148, 57, 136, 0, 23, 66, 279, 221, 109, 43, 265, 106]

cost: 0.8024331068088377

mutsum 107

mutsum2 543.5

sol 5 : level: 18

mutationtracker:[67, 64, 141, 2, 29, 54, 103, 148, 57, 136, 0, 29, 188, 95, 88, 89, 296, 24]

cost: 0.31003917035017936

mutsum 92

mutsum2 439.0

duration: 300.597 sec

Run 38: genome to sequence: [20, 9, 21, 18, 22, 25, 14, 7, 2, 8, 5, 17, 11, 13, 10, 12, 4, 19, 6, 16, 3, 23, 24, 15, 1]

sol 0 : level: 24

mutationtracker:[13, 140, 261, 0, 19, 3, 40, 65, 68, 51, 32, 79, 104, 12, 10, 31, 46, 219, 54, 91, 233, 246, 255, 299]

cost: 4.81013533082228

mutsum 143

mutsum2 899.5

sol 1 : level: 24

mutationtracker:[13, 140, 261, 0, 19, 3, 40, 65, 68, 51, 32, 79, 104, 12, 10, 110, 117, 135, 30, 46, 231, 244, 299, 62]

cost: 0.6090721842325303

mutsum 128

mutsum2 733.0

sol 2 : level: 23

mutationtracker:[13, 140, 261, 0, 19, 3, 40, 65, 68, 51, 32, 79, 104, 12, 10, 110, 117, 35, 220, 68, 208, 186, 299]

cost: 4.609443587593164

mutsum 125

mutsum2 706.5

sol 3 : level: 22

mutationtracker:[13, 140, 261, 0, 19, 3, 40, 89, 51, 188, 154, 121, 130, 99, 144, 60, 225, 38, 194, 222, 290]

cost: 3.86138685644172

mutsum 141

mutsum2 776.5

sol 4 : level: 21

mutationtracker:[13, 140, 261, 0, 19, 3, 40, 89, 51, 188, 154, 121, 130, 99, 144, 24, 209, 57, 194, 290, 221]

cost: 2.1120366217233344

mutsum 139

mutsum2 751.5

sol 5 : level: 21

mutationtracker:[13, 140, 261, 0, 19, 3, 40, 89, 51, 188, 154, 121, 130, 99, 13, 160, 23, 89, 293, 90, 222]

cost: 2.285824300110912

mutsum 125

mutsum2 664.5

sol 6 : level: 19

mutationtracker:[13, 140, 261, 0, 19, 3, 40, 89, 51, 188, 154, 121, 130, 99, 68, 285, 261, 68, 233]

cost: 2.0711121921936675

mutsum 127

mutsum2 727.5

sol 7 : level: 19

mutationtracker:[13, 140, 261, 0, 19, 3, 40, 89, 51, 188, 161, 122, 62, 105, 136, 196, 110, 271, 30]

cost: 0.32783559055247036

mutsum 111

mutsum2 535.5

sol 8 : level: 19

mutationtracker:[13, 140, 261, 0, 19, 3, 40, 89, 51, 188, 161, 159, 76, 117, 146, 255, 40, 244, 215]

cost: 1.9123763751167013

mutsum 123

mutsum2 633.5

sol 9 : level: 19

mutationtracker:[13, 140, 261, 40, 67, 265, 15, 44, 206, 65, 97, 37, 191, 166, 218, 83, 194, 104, 279]

cost: 3.022319643424565

mutsum 139

mutsum2 799.5

sol 10 : level: 18

mutationtracker:[13, 140, 261, 40, 67, 2, 24, 29, 44, 42, 118, 161, 100, 224, 94, 246, 129, 299]

cost: 3.6132036914388226

mutsum 121

mutsum2 752.5

sol 11 : level: 18

mutationtracker:[13, 140, 261, 40, 67, 2, 24, 29, 44, 142, 211, 25, 242, 90, 169, 129, 299, 293]

cost: 3.164949634108419

mutsum 137

mutsum2 948.5

sol 12 : level: 18

mutationtracker:[13, 140, 261, 40, 67, 265, 15, 44, 206, 65, 97, 95, 182, 205, 149, 233, 158, 279]

cost: 2.865495241192668

mutsum 142

mutsum2 836.0

sol 13 : level: 18

mutationtracker:[13, 140, 261, 40, 67, 265, 15, 44, 206, 97, 37, 109, 95, 257, 275, 90, 93, 228]

cost: 1.96462226985787

mutsum 134

mutsum2 806.0

sol 14 : level: 18

mutationtracker:[13, 140, 261, 40, 65, 2, 274, 39, 118, 73, 93, 160, 158, 256, 24, 129, 299, 223]

cost: 1.9656043626095179

mutsum 143

mutsum2 953.5

duration: 295.458 sec

Run 39: genome to sequence: [10, 25, 3, 7, 1, 22, 2, 23, 5, 6, 9, 12, 24, 15, 13, 4, 8, 16, 17, 14, 20, 21, 11, 18, 19]

sol 0 : level: 17

mutationtracker:[5, 212, 29, 70, 99, 95, 110, 155, 40, 126, 109, 133, 100, 81, 79, 34, 208]

cost: 1.5689145444256047

mutsum 89

mutsum2 305.5

duration: 301.681 sec

Run 40: genome to sequence: [13, 2, 4, 8, 18, 9, 17, 21, 16, 19, 22, 11, 15, 24, 25, 5, 20, 14, 7, 1, 12, 23, 6, 3, 10]

sol 0 : level: 22

mutationtracker:[4, 279, 204, 17, 18, 39, 72, 96, 71, 1, 140, 66, 107, 120, 115, 50, 5, 89, 216, 26, 284, 112]

cost: 1.109933215193841

mutsum 123

mutsum2 636.5

sol 1 : level: 22

mutationtracker:[4, 279, 204, 17, 18, 39, 72, 96, 71, 1, 140, 66, 107, 120, 115, 26, 5, 249, 2, 127, 146, 296]

cost: 4.043831853456905

mutsum 130

mutsum2 751.0

sol 2 : level: 20

mutationtracker:[4, 279, 204, 17, 18, 39, 72, 96, 71, 1, 140, 66, 107, 120, 115, 89, 239, 42, 293, 71]

cost: 0.6779401760532281

mutsum 121

mutsum2 687.5

sol 3 : level: 20

mutationtracker:[4, 279, 204, 17, 18, 39, 72, 96, 71, 1, 140, 66, 162, 100, 95, 227, 128, 293, 2, 50]

cost: 0.5112735093865615

mutsum 121

mutsum2 687.5

sol 4 : level: 20

mutationtracker:[4, 279, 204, 17, 18, 39, 72, 96, 71, 1, 140, 107, 162, 139, 134, 274, 20, 84, 179, 287]

cost: 3.34591121570677

mutsum 135

mutsum2 802.5

sol 5 : level: 20

mutationtracker:[4, 279, 204, 17, 18, 133, 92, 39, 70, 71, 167, 179, 81, 150, 167, 201, 16, 163, 258, 266]

cost: 2.8470292496955194

mutsum 147

mutsum2 824.5

duration: 301.786 sec

Run 41: genome to sequence: [24, 11, 13, 25, 4, 21, 17, 22, 23, 2, 18, 10, 15, 5, 9, 8, 12, 19, 6, 20, 3, 7, 1, 14, 16]

sol 0 : level: 21

mutationtracker:[5, 17, 24, 294, 33, 49, 150, 57, 38, 64, 67, 249, 66, 23, 63, 84, 13, 223, 132, 233, 293]

cost: 3.6863438665162365

mutsum 131

mutsum2 843.5

sol 1 : level: 20

mutationtracker:[5, 17, 24, 294, 33, 49, 150, 57, 38, 64, 67, 249, 66, 23, 13, 84, 208, 284, 54, 91]

cost: 0.8437683172283325

mutsum 112

mutsum2 683.0

sol 2 : level: 20

mutationtracker:[5, 17, 24, 294, 33, 49, 150, 57, 38, 64, 67, 249, 106, 43, 109, 105, 169, 91, 136, 271]

cost: 2.844513673220832

mutsum 120

mutsum2 673.0

sol 3 : level: 20

mutationtracker:[5, 17, 24, 294, 33, 49, 150, 57, 38, 109, 17, 121, 9, 133, 91, 141, 158, 206, 55, 76]

cost: 0.6761699555710408

mutsum 102

mutsum2 488.0

sol 4 : level: 20

mutationtracker:[5, 17, 24, 294, 33, 49, 150, 57, 38, 109, 17, 121, 133, 111, 25, 44, 192, 183, 167, 79]

cost: 0.6765426335672907

mutsum 106

mutsum2 516.0

sol 5 : level: 20

mutationtracker:[5, 17, 24, 294, 33, 49, 150, 57, 38, 109, 17, 138, 231, 8, 29, 48, 60, 59, 166, 223]

cost: 2.1763562945691657

mutsum 104

mutsum2 553.0

duration: 300.773 sec

Run 42: genome to sequence: [20, 18, 17, 24, 16, 4, 13, 6, 10, 3, 7, 25, 1, 8, 22, 12, 21, 15, 9, 2, 19, 14, 11, 23, 5]

sol 0 : level: 23

mutationtracker:[173, 177, 3, 277, 46, 32, 11, 62, 19, 73, 127, 170, 111, 138, 130, 147, 0, 47, 0, 89, 266, 129, 263]

cost: 3.0773945821725017

mutsum 142

mutsum2 729.0

sol 1 : level: 22

mutationtracker:[173, 177, 3, 277, 46, 32, 11, 62, 19, 73, 127, 170, 111, 138, 130, 147, 89, 25, 24, 266, 129, 263]

cost: 2.9447201897750537

mutsum 141

mutsum2 727.5

sol 2 : level: 22

mutationtracker:[173, 177, 3, 277, 46, 32, 11, 62, 19, 73, 127, 170, 111, 138, 130, 117, 152, 104, 76, 141, 271, 279]

cost: 3.4955277682460975

mutsum 151

mutsum2 806.5

sol 3 : level: 22

mutationtracker:[173, 177, 3, 277, 46, 32, 11, 62, 19, 73, 127, 170, 111, 138, 130, 7, 52, 189, 179, 110, 234, 203]

cost: 2.027892007414178

mutsum 139

mutsum2 658.5

sol 4 : level: 22

mutationtracker:[173, 177, 3, 277, 46, 32, 11, 62, 19, 73, 127, 170, 111, 138, 1, 48, 147, 203, 194, 90, 222, 188]

cost: 1.8445586740808446

mutsum 139

mutsum2 656.5

sol 5 : level: 22

mutationtracker:[173, 177, 3, 277, 46, 32, 11, 62, 19, 73, 127, 170, 129, 7, 138, 0, 47, 104, 222, 141, 221, 299]

cost: 4.411709887830138

mutsum 145

mutsum2 855.5

sol 6 : level: 21

mutationtracker:[173, 177, 3, 277, 46, 32, 11, 62, 19, 73, 127, 170, 129, 7, 138, 25, 24, 89, 266, 129, 263]

cost: 2.8110840833135744

mutsum 128

mutsum2 678.0

duration: 301.949 sec

Run 43: genome to sequence: [9, 10, 7, 13, 24, 25, 8, 2, 11, 21, 17, 15, 20, 14, 1, 23, 12, 5, 19, 16, 4, 22, 3, 18, 6]

sol 0 : level: 20

mutationtracker:[12, 21, 219, 162, 38, 41, 50, 251, 44, 107, 129, 144, 174, 118, 53, 51, 25, 89, 228, 298]

cost: 3.845259029213332

mutsum 128

mutsum2 716.0

sol 1 : level: 20

mutationtracker:[12, 21, 219, 162, 38, 41, 50, 251, 44, 107, 129, 190, 34, 137, 75, 73, 91, 23, 252, 289]

cost: 3.3450726902152073

mutsum 126

mutsum2 683.0

sol 2 : level: 20

mutationtracker:[12, 21, 219, 162, 38, 41, 50, 251, 44, 107, 129, 190, 53, 51, 116, 23, 163, 82, 256, 179]

cost: 1.5109940008893739

mutsum 118

mutsum2 551.0

sol 3 : level: 20

mutationtracker:[12, 87, 19, 50, 18, 84, 190, 20, 96, 22, 34, 37, 59, 108, 207, 173, 257, 109, 255, 299]

cost: 4.011553017883749

mutsum 124

mutsum2 764.0

duration: 301.677 sec

Run 44: genome to sequence: [19, 18, 17, 21, 12, 23, 10, 2, 11, 9, 4, 3, 6, 7, 20, 16, 13, 22, 24, 5, 25, 8, 15, 14, 1]

sol 0 : level: 17

mutationtracker:[200, 50, 13, 16, 19, 159, 41, 34, 82, 135, 176, 163, 170, 17, 47, 255, 103]

cost: 0.7191523244501501

mutsum 91

mutsum2 393.5

sol 1 : level: 16

mutationtracker:[200, 50, 13, 16, 19, 159, 41, 34, 128, 208, 142, 240, 114, 115, 122, 272]

cost: 2.4134114583333335

mutsum 103

mutsum2 519.5

sol 2 : level: 16

mutationtracker:[200, 50, 13, 16, 19, 159, 41, 34, 128, 217, 96, 51, 164, 199, 289, 234]

cost: 1.880859375

mutsum 109

mutsum2 608.5

duration: 300.065 sec

Run 45: genome to sequence: [3, 25, 22, 18, 17, 23, 13, 15, 7, 24, 4, 19, 5, 20, 14, 1, 16, 2, 21, 6, 8, 12, 11, 10, 9]

sol 0 : level: 21

mutationtracker:[11, 16, 26, 68, 53, 83, 71, 115, 173, 8, 18, 34, 91, 121, 50, 154, 163, 23, 24, 293, 69]

cost: 0.7082264680842933

mutsum 95

mutsum2 419.5

sol 1 : level: 20

mutationtracker:[11, 16, 26, 68, 53, 83, 71, 115, 173, 8, 18, 34, 91, 121, 128, 187, 93, 47, 48, 284]

cost: 3.175424599578541

mutsum 94

mutsum2 390.0

sol 2 : level: 20

mutationtracker:[11, 16, 26, 68, 53, 83, 71, 115, 173, 8, 18, 34, 121, 5, 69, 128, 187, 147, 284, 26]

cost: 0.341998096746145

mutsum 93

mutsum2 398.5

sol 3 : level: 17

mutationtracker:[11, 16, 26, 68, 53, 83, 71, 115, 173, 8, 18, 82, 214, 163, 180, 209, 293]

cost: 2.9871267812518165

mutsum 102

mutsum2 542.0

sol 4 : level: 17

mutationtracker:[11, 16, 26, 68, 53, 83, 71, 115, 173, 18, 55, 31, 82, 214, 298, 181, 24]

cost: 0.29403343443787744

mutsum 90

mutsum2 490.0

duration: 302.284 sec

Run 46: genome to sequence: [12, 24, 7, 20, 3, 17, 8, 1, 6, 4, 15, 16, 23, 14, 9, 21, 19, 10, 13, 5, 22, 25, 18, 2, 11]

sol 0 : level: 25

mutationtracker:[39, 41, 34, 50, 269, 45, 207, 60, 35, 70, 115, 55, 110, 139, 8, 157, 153, 13, 125, 46, 160, 47, 213, 129, 263]

cost: 3.3428

mutsum 142

mutsum2 643.0

sol 1 : level: 23

mutationtracker:[39, 41, 34, 50, 269, 45, 207, 60, 35, 70, 115, 55, 110, 139, 8, 157, 153, 179, 82, 47, 209, 204, 299]

cost: 4.611332305111798

mutsum 150

mutsum2 835.0

sol 2 : level: 23

mutationtracker:[39, 41, 34, 50, 269, 45, 207, 60, 35, 70, 115, 55, 110, 139, 8, 157, 6, 47, 238, 129, 155, 244, 77]

cost: 0.7764879977635579

mutsum 130

mutsum2 595.0

sol 3 : level: 23

mutationtracker:[39, 41, 34, 50, 269, 45, 207, 60, 35, 70, 115, 110, 135, 139, 106, 164, 46, 143, 197, 120, 148, 147, 263]

cost: 3.077696776975483

mutsum 146

mutsum2 667.0

sol 4 : level: 22

mutationtracker:[39, 41, 34, 50, 269, 45, 78, 246, 262, 58, 48, 77, 109, 86, 135, 152, 5, 260, 67, 108, 110, 264]

cost: 3.1283765544968043

mutsum 145

mutsum2 807.5

sol 5 : level: 22

mutationtracker:[39, 41, 34, 50, 269, 45, 78, 246, 262, 58, 48, 109, 86, 135, 152, 164, 174, 88, 87, 3, 237, 63]

cost: 0.5610638250533025

mutsum 137

mutsum2 691.5

sol 6 : level: 21

mutationtracker:[39, 41, 34, 50, 269, 45, 78, 246, 262, 48, 55, 30, 109, 86, 22, 160, 67, 99, 95, 234, 228]

cost: 2.2861706777144613

mutsum 129

mutsum2 681.5

sol 7 : level: 21

mutationtracker:[39, 41, 34, 50, 269, 45, 78, 246, 262, 48, 55, 29, 84, 65, 214, 104, 139, 57, 271, 110, 264]

cost: 2.987556188128658

mutsum 145

mutsum2 849.5

duration: 300.471 sec

Run 47: genome to sequence: [6, 1, 19, 11, 12, 13, 25, 16, 20, 4, 22, 21, 3, 7, 23, 17, 5, 10, 15, 9, 2, 18, 14, 24, 8]

sol 0 : level: 18

mutationtracker:[33, 261, 162, 0, 10, 61, 42, 36, 71, 75, 124, 57, 56, 112, 1, 287, 46, 284]

cost: 2.861239505935527

mutsum 103

mutsum2 615.5

duration: 300.774 sec

Run 48: genome to sequence: [25, 12, 14, 19, 22, 7, 21, 20, 3, 2, 15, 10, 8, 24, 18, 5, 13, 16, 23, 1, 17, 6, 9, 11, 4]

sol 0 : level: 21

mutationtracker:[105, 4, 40, 60, 34, 206, 51, 31, 33, 136, 72, 2, 193, 13, 188, 109, 133, 23, 181, 294, 46]

cost: 0.35961197849849014

mutsum 111

mutsum2 555.5

sol 1 : level: 21

mutationtracker:[105, 4, 40, 60, 34, 206, 51, 31, 33, 136, 72, 2, 193, 13, 68, 51, 217, 94, 168, 210, 299]

cost: 4.21056451690825

mutsum 122

mutsum2 668.0

sol 2 : level: 21

mutationtracker:[105, 4, 40, 60, 34, 206, 51, 31, 33, 136, 72, 2, 193, 13, 118, 111, 169, 68, 250, 299, 108]

cost: 0.8855645169082504

mutsum 122

mutsum2 668.0

sol 3 : level: 21

mutationtracker:[105, 4, 40, 60, 34, 206, 51, 31, 33, 136, 72, 2, 16, 245, 102, 65, 22, 125, 118, 263, 93]

cost: 0.8837460344896171

mutsum 101

mutsum2 430.5

sol 4 : level: 21

mutationtracker:[105, 4, 40, 60, 34, 206, 51, 31, 33, 136, 72, 2, 16, 245, 162, 81, 150, 45, 68, 229, 275]

cost: 3.1599583561020395

mutsum 115

mutsum2 561.5

sol 5 : level: 19

mutationtracker:[105, 4, 40, 60, 34, 206, 51, 31, 33, 197, 292, 120, 98, 109, 14, 210, 80, 163, 299]

cost: 3.812879479796242

mutsum 128

mutsum2 815.0

sol 6 : level: 19

mutationtracker:[105, 4, 40, 60, 34, 206, 51, 31, 33, 197, 292, 120, 129, 109, 154, 147, 185, 284, 222]

cost: 2.072319643424565

mutsum 139

mutsum2 805.5

sol 7 : level: 19

mutationtracker:[105, 4, 40, 60, 34, 206, 51, 31, 33, 197, 292, 120, 40, 168, 94, 47, 272, 212, 293]

cost: 3.3389863100912316

mutsum 139

mutsum2 903.5

sol 8 : level: 19

mutationtracker:[105, 4, 40, 101, 126, 51, 109, 86, 131, 78, 260, 51, 55, 177, 23, 0, 181, 233, 195]

cost: 1.7526343486806542

mutsum 109

mutsum2 476.5

sol 9 : level: 19

mutationtracker:[105, 4, 40, 101, 126, 51, 109, 86, 131, 78, 260, 51, 196, 207, 23, 49, 0, 209, 233]

cost: 2.0697034990909535

mutsum 113

mutsum2 518.5

sol 10 : level: 19

mutationtracker:[105, 4, 40, 101, 126, 51, 109, 86, 131, 78, 260, 51, 23, 177, 195, 233, 10, 47, 180]

cost: 1.5943010153473207

mutsum 109

mutsum2 476.5

duration: 301.628 sec

Run 49: genome to sequence: [24, 3, 22, 23, 13, 7, 11, 14, 25, 4, 18, 1, 9, 6, 12, 10, 2, 19, 16, 5, 21, 8, 20, 15, 17]

sol 0 : level: 18

mutationtracker:[87, 135, 138, 223, 22, 19, 204, 3, 100, 53, 6, 176, 46, 118, 24, 234, 59, 194]

cost: 1.5109121416849776

mutsum 100

mutsum2 436.0

duration: 300.316 sec

Run 50: genome to sequence: [4, 5, 9, 23, 24, 7, 19, 22, 21, 13, 10, 6, 17, 1, 2, 15, 16, 14, 8, 18, 12, 11, 25, 3, 20]

sol 0 : level: 16

mutationtracker:[215, 197, 6, 27, 46, 65, 62, 63, 56, 69, 156, 18, 44, 145, 200, 49]

cost: 0.40989583333333335

mutsum 76

mutsum2 287.0

sol 1 : level: 16

mutationtracker:[215, 197, 6, 27, 46, 65, 62, 56, 87, 69, 119, 178, 52, 169, 49, 101]

cost: 0.6770833333333334

mutsum 80

mutsum2 287.0

sol 2 : level: 15

mutationtracker:[215, 197, 6, 27, 46, 125, 21, 43, 56, 69, 107, 156, 145, 200, 49]

cost: 0.3861886185557103

mutsum 78

mutsum2 304.0

sol 3 : level: 15

mutationtracker:[215, 197, 6, 27, 46, 125, 21, 56, 69, 107, 156, 145, 200, 49, 43]

cost: 0.2611886185557103

mutsum 78

mutsum2 304.0

duration: 300.056 sec

Run 51: genome to sequence: [8, 10, 21, 14, 18, 12, 4, 15, 24, 22, 19, 9, 11, 1, 16, 2, 13, 25, 17, 7, 6, 5, 23, 20, 3]

sol 0 : level: 23

mutationtracker:[181, 14, 40, 53, 56, 207, 167, 12, 92, 26, 121, 9, 115, 21, 23, 179, 68, 55, 159, 98, 142, 209, 279]

cost: 3.6513369003620673

mutsum 128

mutsum2 586.0

sol 1 : level: 22

mutationtracker:[181, 14, 40, 53, 56, 207, 167, 12, 92, 26, 121, 9, 115, 21, 23, 188, 36, 179, 195, 109, 272, 179]

cost: 1.660175488735154

mutsum 126

mutsum2 583.0

sol 2 : level: 22

mutationtracker:[181, 14, 40, 53, 56, 207, 167, 12, 92, 26, 121, 9, 115, 21, 23, 129, 36, 118, 58, 140, 233, 234]

cost: 2.5758730612365683

mutsum 114

mutsum2 471.0

sol 3 : level: 21

mutationtracker:[181, 14, 40, 53, 56, 207, 167, 12, 92, 26, 121, 9, 115, 21, 23, 105, 137, 146, 138, 222, 285]

cost: 3.5104779225073632

mutsum 121

mutsum2 585.5

sol 4 : level: 21

mutationtracker:[181, 14, 40, 53, 56, 207, 167, 12, 92, 26, 121, 9, 115, 21, 188, 55, 118, 23, 233, 129, 234]

cost: 2.4599583561020397

mutsum 115

mutsum2 494.5

sol 5 : level: 21

mutationtracker:[181, 14, 40, 53, 56, 207, 167, 12, 92, 26, 121, 9, 115, 188, 46, 45, 159, 102, 172, 264, 299]

cost: 4.21186343292156

mutsum 137

mutsum2 785.5

sol 6 : level: 21

mutationtracker:[181, 14, 40, 53, 56, 207, 167, 12, 92, 26, 121, 9, 115, 188, 45, 159, 102, 172, 264, 299, 24]

cost: 0.36186343292155987

mutsum 137

mutsum2 785.5

sol 7 : level: 21

mutationtracker:[181, 14, 40, 53, 56, 207, 167, 12, 92, 26, 121, 9, 115, 188, 58, 35, 206, 158, 172, 279, 296]

cost: 3.8624695937277713

mutsum 144

mutsum2 826.0

sol 8 : level: 21

mutationtracker:[181, 14, 40, 53, 56, 207, 167, 12, 92, 26, 121, 9, 169, 140, 21, 23, 233, 95, 129, 234, 36]

cost: 0.3597851673002647

mutsum 113

mutsum2 483.5

sol 9 : level: 21

mutationtracker:[181, 14, 40, 53, 56, 207, 167, 12, 92, 26, 128, 138, 115, 125, 17, 155, 127, 232, 111, 133, 129]

cost: 1.235391328106476

mutsum 120

mutsum2 458.0

sol 10 : level: 21

mutationtracker:[181, 14, 40, 53, 56, 207, 167, 12, 92, 128, 138, 115, 125, 15, 17, 178, 98, 26, 227, 245, 294]

cost: 3.861950027322447

mutsum 138

mutsum2 749.0

sol 11 : level: 21

mutationtracker:[181, 14, 40, 53, 173, 108, 248, 18, 44, 36, 11, 81, 33, 112, 47, 163, 2, 4, 240, 49, 149]

cost: 1.4087460344896172

mutsum 101

mutsum2 427.5

sol 12 : level: 20

mutationtracker:[181, 14, 40, 53, 173, 108, 248, 18, 44, 36, 11, 81, 33, 112, 49, 163, 4, 90, 240, 149]

cost: 1.3428366222377075

mutsum 102

mutsum2 435.0

sol 13 : level: 20

mutationtracker:[181, 14, 40, 53, 173, 108, 248, 18, 44, 36, 11, 81, 33, 154, 163, 48, 47, 245, 142, 247]

cost: 2.510807661891249

mutsum 116

mutsum2 560.0

sol 14 : level: 20

mutationtracker:[181, 14, 40, 53, 173, 108, 248, 18, 44, 36, 11, 81, 163, 154, 14, 149, 92, 217, 129, 234]

cost: 2.344327334222707

mutsum 118

mutsum2 539.0

duration: 132.266 sec

Run 52: genome to sequence: [12, 25, 10, 17, 11, 2, 18, 3, 7, 5, 24, 4, 16, 14, 1, 8, 15, 13, 19, 9, 23, 6, 21, 20, 22]

sol 0 : level: 22

mutationtracker:[60, 3, 5, 10, 22, 25, 133, 29, 250, 20, 50, 100, 31, 125, 7, 78, 110, 46, 194, 146, 225, 299]

cost: 4.409448668111215

mutsum 117

mutsum2 660.5

sol 1 : level: 22

mutationtracker:[60, 3, 5, 10, 22, 25, 133, 29, 250, 20, 50, 100, 31, 125, 73, 47, 135, 35, 233, 191, 180, 272]

cost: 3.3094486681112145

mutsum 117

mutsum2 570.5

sol 2 : level: 21

mutationtracker:[60, 3, 5, 10, 22, 25, 133, 29, 250, 20, 50, 100, 31, 125, 218, 171, 234, 55, 56, 208, 244]

cost: 2.4600449505029265

mutsum 116

mutsum2 563.0

duration: 300.665 sec

Run 53: genome to sequence: [23, 19, 22, 6, 20, 16, 5, 3, 25, 21, 11, 4, 12, 24, 10, 1, 13, 8, 17, 9, 18, 7, 14, 15, 2]

sol 0 : level: 20

mutationtracker:[18, 263, 0, 20, 28, 52, 59, 66, 22, 241, 29, 55, 105, 82, 147, 156, 42, 21, 240, 66]

cost: 0.5088511024109367

mutsum 95

mutsum2 439.5

sol 1 : level: 20

mutationtracker:[18, 263, 0, 20, 28, 52, 59, 66, 22, 241, 29, 55, 99, 121, 147, 9, 21, 240, 66, 170]

cost: 1.5090374414090617

mutsum 97

mutsum2 456.5

duration: 302.283 sec

Run 54: genome to sequence: [2, 18, 24, 14, 19, 20, 4, 22, 9, 10, 12, 7, 3, 6, 1, 13, 15, 21, 23, 11, 8, 5, 16, 17, 25]

sol 0 : level: 16

mutationtracker:[158, 292, 14, 7, 29, 57, 121, 41, 213, 195, 82, 191, 211, 205, 219, 291]

cost: 2.8178385416666667

mutsum 137

mutsum2 895.5

sol 1 : level: 16

mutationtracker:[158, 292, 14, 7, 29, 57, 121, 41, 213, 82, 139, 107, 48, 246, 0, 82]

cost: 0.545703125

mutsum 95

mutsum2 522.5

duration: 302.534 sec

Run 55: genome to sequence: [8, 17, 16, 11, 6, 19, 13, 23, 4, 1, 24, 18, 5, 20, 14, 7, 25, 12, 15, 2, 3, 22, 21, 10, 9]

sol 0 : level: 17

mutationtracker:[134, 190, 167, 41, 44, 28, 59, 77, 129, 76, 199, 102, 133, 10, 8, 219, 263]

cost: 2.278912337930756

mutsum 103

mutsum2 464.5

sol 1 : level: 17

mutationtracker:[134, 190, 167, 41, 44, 28, 59, 77, 129, 76, 14, 161, 12, 221, 199, 102, 133]

cost: 1.0029612178325744

mutsum 95

mutsum2 368.5

sol 2 : level: 17

mutationtracker:[134, 190, 167, 41, 44, 28, 59, 77, 129, 114, 32, 137, 102, 244, 32, 33, 192]

cost: 1.4278423278203016

mutsum 94

mutsum2 367.0

sol 3 : level: 17

mutationtracker:[134, 190, 167, 41, 44, 28, 59, 77, 129, 114, 14, 16, 121, 107, 23, 179, 155]

cost: 1.1432012043519684

mutsum 83

mutsum2 280.5

duration: 300.579 sec

Run 56: genome to sequence: [1, 12, 25, 2, 9, 13, 19, 14, 15, 18, 6, 21, 3, 23, 17, 20, 11, 22, 16, 8, 5, 24, 10, 7, 4]

sol 0 : level: 21

mutationtracker:[67, 61, 5, 25, 36, 27, 80, 175, 66, 23, 78, 79, 133, 36, 158, 149, 100, 46, 106, 224, 296]

cost: 3.8595253840976027

mutsum 110

mutsum2 529.0

sol 1 : level: 21

mutationtracker:[67, 61, 5, 25, 36, 27, 80, 175, 66, 23, 78, 79, 133, 36, 58, 191, 46, 103, 183, 296, 253]

cost: 2.634871761701152

mutsum 114

mutsum2 585.0

sol 2 : level: 20

mutationtracker:[67, 61, 5, 25, 36, 27, 80, 175, 66, 23, 78, 79, 169, 72, 125, 171, 86, 46, 275, 296]

cost: 3.677101650561666

mutsum 112

mutsum2 606.0

sol 3 : level: 19

mutationtracker:[67, 61, 5, 25, 36, 27, 80, 175, 66, 79, 33, 133, 23, 158, 149, 100, 145, 247, 289]

cost: 3.1773324858729297

mutsum 106

mutsum2 517.0

sol 4 : level: 19

mutationtracker:[67, 61, 5, 25, 36, 27, 80, 175, 66, 79, 33, 133, 158, 126, 146, 149, 131, 244, 257]

cost: 2.5442003944114124

mutsum 108

mutsum2 460.0

sol 5 : level: 19

mutationtracker:[67, 61, 5, 25, 36, 27, 80, 175, 66, 79, 33, 133, 191, 87, 109, 182, 221, 257, 173]

cost: 1.435867061078079

mutsum 108

mutsum2 464.0

sol 6 : level: 19

mutationtracker:[67, 61, 5, 25, 36, 27, 80, 175, 66, 23, 79, 93, 118, 32, 216, 71, 278, 112, 169]

cost: 1.4346596098471815

mutsum 96

mutsum2 410.0

duration: 300.224 sec

Run 57: genome to sequence: [9, 18, 23, 17, 5, 10, 7, 21, 11, 1, 14, 4, 25, 16, 13, 24, 12, 15, 6, 20, 19, 22, 8, 3, 2]

sol 0 : level: 20

mutationtracker:[202, 274, 12, 57, 39, 77, 103, 53, 126, 164, 120, 17, 179, 15, 138, 42, 48, 250, 111, 246]

cost: 2.5118325263809362

mutsum 127

mutsum2 646.5

sol 1 : level: 20

mutationtracker:[202, 274, 12, 57, 39, 77, 103, 53, 126, 164, 120, 17, 179, 48, 138, 165, 121, 42, 237, 124]

cost: 1.0116461873828113

mutsum 125

mutsum2 577.5

sol 2 : level: 20

mutationtracker:[202, 274, 12, 57, 39, 77, 103, 53, 126, 164, 120, 17, 179, 52, 138, 165, 42, 175, 117, 267]

cost: 2.8455385377105196

mutsum 131

mutsum2 646.5

sol 3 : level: 20

mutationtracker:[202, 274, 12, 57, 39, 77, 103, 53, 126, 164, 120, 17, 179, 256, 25, 94, 113, 57, 124, 190]

cost: 1.6784060235485405

mutsum 126

mutsum2 605.0

sol 4 : level: 20

mutationtracker:[202, 274, 12, 57, 39, 77, 103, 53, 126, 164, 120, 17, 179, 64, 250, 9, 70, 148, 120, 236]

cost: 2.345352198712395

mutsum 129

mutsum2 645.5

sol 5 : level: 20

mutationtracker:[202, 274, 12, 57, 39, 77, 103, 53, 126, 164, 120, 17, 179, 42, 138, 165, 237, 113, 124, 57]

cost: 0.5116461873828114

mutsum 125

mutsum2 577.5

sol 6 : level: 20

mutationtracker:[202, 274, 12, 57, 39, 77, 103, 53, 126, 164, 120, 17, 179, 204, 134, 13, 70, 142, 196, 280]

cost: 3.1795240575372907

mutsum 138

mutsum2 731.0

sol 7 : level: 20

mutationtracker:[202, 274, 12, 57, 39, 77, 103, 53, 126, 192, 100, 56, 209, 98, 61, 148, 146, 145, 235, 291]

cost: 3.513789085861249

mutsum 148

mutsum2 828.0

sol 8 : level: 19

mutationtracker:[202, 274, 12, 57, 39, 77, 103, 53, 126, 192, 100, 56, 209, 194, 12, 124, 159, 217, 246]

cost: 2.388583826347599

mutsum 135

mutsum2 696.5

sol 9 : level: 19

mutationtracker:[202, 274, 12, 57, 39, 77, 103, 53, 126, 192, 100, 56, 61, 134, 70, 0, 256, 298, 204]

cost: 1.7553511139501738

mutsum 136

mutsum2 830.0

sol 10 : level: 18

mutationtracker:[202, 274, 12, 57, 39, 77, 103, 53, 126, 192, 100, 56, 12, 194, 115, 48, 280, 147]

cost: 1.2128763271882734

mutsum 118

mutsum2 625.0

sol 11 : level: 18

mutationtracker:[202, 274, 12, 57, 39, 77, 103, 53, 126, 192, 100, 148, 0, 70, 134, 102, 298, 244]

cost: 2.1141857841904708

mutsum 130

mutsum2 775.0

sol 12 : level: 18

mutationtracker:[202, 274, 12, 57, 39, 77, 103, 53, 126, 192, 115, 77, 129, 154, 1, 225, 298, 230]

cost: 1.9650587555252692

mutsum 138

mutsum2 839.0

sol 13 : level: 18

mutationtracker:[202, 274, 12, 57, 39, 77, 103, 53, 126, 10, 244, 115, 77, 129, 126, 154, 85, 267]

cost: 2.563094570021973

mutsum 120

mutsum2 624.0

duration: 301.583 sec

Run 58: genome to sequence: [18, 9, 2, 14, 1, 5, 10, 7, 3, 23, 6, 15, 22, 11, 20, 24, 21, 19, 4, 16, 8, 17, 12, 13, 25]

sol 0 : level: 18

mutationtracker:[3, 15, 19, 33, 74, 202, 33, 35, 39, 36, 47, 72, 26, 239, 73, 65, 22, 220]

cost: 1.807747620596334

mutsum 71

mutsum2 277.5

duration: 301.435 sec

Run 59: genome to sequence: [10, 15, 16, 22, 23, 24, 25, 1, 20, 19, 6, 21, 3, 5, 8, 12, 14, 4, 11, 2, 17, 18, 9, 13, 7]

sol 0 : level: 16

mutationtracker:[144, 22, 32, 67, 178, 13, 99, 125, 102, 77, 208, 235, 164, 174, 63, 163]

cost: 1.079296875

mutsum 97

mutsum2 399.5

duration: 301.020 sec

Run 60: genome to sequence: [11, 1, 8, 24, 10, 19, 20, 25, 15, 14, 7, 3, 5, 6, 16, 2, 4, 22, 23, 21, 12, 17, 9, 18, 13]

sol 0 : level: 16

mutationtracker:[59, 269, 262, 0, 20, 27, 26, 60, 11, 63, 239, 194, 158, 162, 165, 220]

cost: 1.6143229166666666

mutsum 110

mutsum2 616.0

duration: 300.990 sec

Run 61: genome to sequence: [16, 1, 22, 2, 21, 18, 15, 14, 13, 24, 8, 4, 9, 11, 19, 17, 10, 7, 23, 20, 3, 12, 6, 5, 25]

sol 0 : level: 17

mutationtracker:[2, 10, 38, 13, 41, 43, 175, 56, 207, 90, 69, 157, 26, 257, 18, 65, 106]

cost: 0.7173689742660595

mutsum 76

mutsum2 313.0

sol 1 : level: 17

mutationtracker:[2, 10, 38, 13, 41, 43, 175, 56, 207, 157, 0, 1, 257, 63, 20, 65, 39]

cost: 0.2912989641556051

mutsum 67

mutsum2 285.5

duration: 300.295 sec

Run 62: genome to sequence: [3, 16, 15, 23, 21, 25, 9, 6, 14, 2, 1, 20, 18, 10, 24, 19, 4, 17, 12, 8, 13, 11, 7, 22, 5]

sol 0 : level: 25

mutationtracker:[43, 246, 18, 26, 150, 9, 35, 32, 90, 129, 136, 61, 42, 252, 30, 67, 73, 45, 68, 42, 65, 17, 16, 199, 213]

cost: 2.5077333333333334

mutsum 116

mutsum2 495.0

sol 1 : level: 25

mutationtracker:[43, 246, 18, 26, 150, 9, 35, 32, 90, 129, 136, 61, 42, 252, 30, 67, 73, 23, 66, 88, 40, 63, 15, 184, 199]

cost: 2.2994

mutsum 116

mutsum2 479.0

sol 2 : level: 25

mutationtracker:[43, 246, 18, 26, 150, 9, 35, 32, 90, 129, 136, 61, 42, 252, 30, 89, 73, 19, 18, 17, 16, 15, 14, 168, 184]

cost: 2.0904666666666665

mutsum 107

mutsum2 445.5

sol 3 : level: 24

mutationtracker:[43, 246, 18, 26, 150, 9, 35, 32, 90, 129, 136, 61, 42, 252, 30, 89, 19, 18, 17, 16, 15, 119, 94, 100]

cost: 1.0070167674923476

mutsum 99

mutsum2 389.5

sol 4 : level: 20

mutationtracker:[43, 246, 18, 26, 150, 9, 35, 32, 90, 129, 136, 61, 42, 252, 30, 89, 19, 189, 94, 174]

cost: 1.5095964584034365

mutsum 103

mutsum2 447.5

sol 5 : level: 20

mutationtracker:[43, 246, 18, 26, 150, 9, 35, 32, 90, 129, 136, 61, 252, 30, 89, 19, 189, 94, 174, 34]

cost: 0.34292979173676996

mutsum 103

mutsum2 447.5

sol 6 : level: 19

mutationtracker:[43, 246, 18, 26, 150, 9, 35, 32, 90, 129, 162, 59, 170, 162, 61, 42, 68, 278, 94]

cost: 0.8021312440011134

mutsum 104

mutsum2 485.0

sol 7 : level: 19

mutationtracker:[43, 246, 18, 26, 150, 9, 35, 32, 90, 129, 162, 170, 162, 68, 61, 278, 68, 94, 34]

cost: 0.3271312440011133

mutsum 104

mutsum2 485.0

sol 8 : level: 19

mutationtracker:[43, 246, 18, 99, 133, 27, 121, 163, 39, 89, 93, 47, 48, 74, 100, 54, 184, 263, 213]

cost: 1.91137016575762

mutsum 113

mutsum2 510.5

sol 9 : level: 19

mutationtracker:[43, 246, 18, 99, 133, 27, 121, 163, 39, 89, 93, 47, 131, 148, 136, 25, 185, 194, 276]

cost: 2.8622757541807933

mutsum 122

mutsum2 576.0

sol 10 : level: 19

mutationtracker:[43, 246, 18, 99, 133, 27, 121, 163, 39, 89, 93, 47, 8, 100, 224, 208, 244, 241, 265]

cost: 2.705250493014266

mutsum 135

mutsum2 729.5

sol 11 : level: 18

mutationtracker:[43, 246, 18, 99, 133, 27, 121, 163, 39, 89, 93, 47, 118, 182, 100, 37, 271, 265]

cost: 2.5627672057714235

mutsum 117

mutsum2 602.5

duration: 300.112 sec

Run 63: genome to sequence: [1, 9, 5, 24, 12, 19, 18, 2, 23, 14, 11, 3, 25, 4, 22, 20, 13, 15, 16, 7, 6, 17, 10, 8, 21]

sol 0 : level: 16

mutationtracker:[12, 167, 80, 208, 12, 40, 14, 52, 70, 99, 53, 169, 214, 159, 175, 206]

cost: 1.4787760416666667

mutsum 93

mutsum2 387.5

sol 1 : level: 16

mutationtracker:[12, 167, 80, 208, 12, 40, 14, 52, 70, 156, 116, 5, 159, 175, 206, 74]

cost: 0.544140625

mutsum 83

mutsum2 316.5

duration: 302.156 sec

Run 64: genome to sequence: [15, 8, 4, 9, 11, 22, 10, 21, 12, 24, 20, 7, 25, 14, 5, 6, 18, 3, 23, 2, 1, 17, 13, 16, 19]

sol 0 : level: 20

mutationtracker:[5, 1, 210, 21, 17, 9, 26, 30, 82, 72, 77, 134, 143, 152, 45, 211, 179, 109, 254, 234]

cost: 2.3437683172283323

mutsum 112

mutsum2 521.0

sol 1 : level: 20

mutationtracker:[5, 1, 210, 21, 17, 9, 26, 30, 82, 72, 77, 134, 143, 0, 45, 175, 255, 105, 179, 176]

cost: 1.5091306109081242

mutsum 98

mutsum2 416.0

sol 2 : level: 20

mutationtracker:[5, 1, 210, 21, 17, 9, 26, 30, 82, 72, 77, 136, 29, 278, 110, 52, 48, 47, 205, 290]

cost: 3.5099691363996866

mutsum 107

mutsum2 603.5

sol 3 : level: 20

mutationtracker:[5, 1, 210, 21, 17, 9, 26, 30, 82, 72, 77, 136, 52, 271, 129, 53, 70, 69, 206, 294]

cost: 3.677008481062603

mutsum 111

mutsum2 623.5

duration: 300.048 sec

Run 65: genome to sequence: [13, 19, 3, 15, 8, 24, 6, 14, 12, 4, 9, 25, 22, 23, 10, 20, 2, 21, 18, 11, 17, 1, 7, 16, 5]

sol 0 : level: 21

mutationtracker:[95, 224, 161, 16, 84, 99, 83, 65, 102, 116, 50, 127, 153, 53, 111, 41, 174, 89, 196, 209, 299]

cost: 4.212296404925996

mutsum 142

mutsum2 741.0

sol 1 : level: 20

mutationtracker:[95, 224, 161, 16, 84, 99, 83, 65, 102, 116, 50, 127, 153, 186, 90, 13, 208, 214, 269, 294]

cost: 3.680548922026978

mutsum 149

mutsum2 829.5

sol 2 : level: 20

mutationtracker:[95, 224, 161, 16, 84, 99, 83, 65, 102, 116, 50, 127, 153, 70, 6, 111, 246, 8, 263, 209]

cost: 2.0117393568818738

mutsum 126

mutsum2 587.0

sol 3 : level: 19

mutationtracker:[95, 224, 161, 16, 84, 99, 83, 65, 102, 116, 50, 127, 11, 233, 245, 62, 105, 144, 219]

cost: 1.9119738913730688

mutsum 119

mutsum2 526.5

sol 4 : level: 19

mutationtracker:[95, 224, 161, 16, 84, 99, 83, 65, 102, 116, 50, 153, 53, 232, 111, 255, 47, 199, 289]

cost: 3.1804517348860823

mutsum 137

mutsum2 729.5

duration: 304.583 sec

Run 66: genome to sequence: [5, 25, 23, 24, 8, 6, 18, 19, 2, 14, 4, 21, 15, 20, 3, 10, 9, 13, 17, 22, 11, 16, 12, 1, 7]

sol 0 : level: 20

mutationtracker:[98, 21, 65, 9, 10, 2, 58, 60, 70, 84, 44, 164, 97, 252, 108, 128, 47, 51, 129, 299]

cost: 4.009782797401561

mutsum 105

mutsum2 563.5

sol 1 : level: 18

mutationtracker:[98, 21, 65, 9, 10, 2, 58, 60, 70, 84, 44, 164, 193, 222, 79, 31, 271, 6]

cost: 0.15916619901538115

mutsum 84

mutsum2 376.0

duration: 300.885 sec

Run 67: genome to sequence: [5, 15, 4, 9, 21, 23, 3, 17, 7, 11, 18, 10, 22, 1, 25, 2, 8, 6, 19, 14, 24, 13, 16, 20, 12]

sol 0 : level: 25

mutationtracker:[133, 1, 5, 6, 187, 6, 10, 12, 20, 68, 66, 99, 90, 93, 126, 137, 122, 145, 180, 11, 12, 13, 14, 179, 162]

cost: 1.6734666666666667

mutsum 102

mutsum2 334.0

sol 1 : level: 21

mutationtracker:[133, 1, 5, 6, 187, 6, 10, 12, 20, 68, 66, 99, 90, 93, 126, 137, 122, 145, 221, 233, 180]

cost: 1.7591790064940538

mutsum 106

mutsum2 416.0

sol 2 : level: 21

mutationtracker:[133, 1, 5, 6, 187, 6, 10, 12, 19, 90, 88, 45, 63, 59, 33, 93, 204, 89, 279, 192, 282]

cost: 3.3346119784984904

mutsum 111

mutsum2 603.5

sol 3 : level: 21

mutationtracker:[133, 1, 5, 6, 187, 6, 10, 12, 19, 90, 88, 45, 63, 59, 259, 142, 89, 102, 279, 107, 242]

cost: 2.4596119784984904

mutsum 111

mutsum2 573.5

sol 4 : level: 21

mutationtracker:[133, 1, 5, 6, 187, 6, 10, 12, 19, 84, 66, 67, 63, 59, 85, 90, 93, 180, 233, 183, 211]

cost: 2.1085728456878425

mutsum 99

mutsum2 393.5

sol 5 : level: 21

mutationtracker:[133, 1, 5, 6, 187, 6, 10, 12, 19, 84, 66, 67, 59, 85, 90, 93, 230, 204, 180, 233, 62]

cost: 0.5337460344896171

mutsum 101

mutsum2 416.5

sol 6 : level: 21

mutationtracker:[133, 1, 5, 6, 11, 14, 46, 79, 187, 6, 19, 88, 90, 93, 231, 22, 122, 118, 180, 162, 179]

cost: 1.583399656886068

mutsum 97

mutsum2 364.5

sol 7 : level: 21

mutationtracker:[133, 1, 5, 6, 11, 14, 46, 79, 187, 6, 19, 88, 90, 93, 23, 126, 137, 140, 162, 180, 23]

cost: 0.1822739296745331

mutsum 84

mutsum2 271.0

sol 8 : level: 20

mutationtracker:[133, 1, 5, 6, 187, 6, 46, 12, 19, 9, 88, 90, 93, 231, 46, 107, 16, 141, 118, 180]

cost: 1.6744929045879158

mutsum 84

mutsum2 305.0

sol 9 : level: 20

mutationtracker:[133, 1, 5, 6, 187, 6, 46, 12, 19, 9, 88, 90, 93, 145, 15, 100, 155, 158, 180, 179]

cost: 1.5081989159174993

mutsum 88

mutsum2 305.0

duration: 300.330 sec

Run 68: genome to sequence: [25, 15, 18, 22, 1, 5, 17, 20, 24, 23, 8, 13, 21, 16, 11, 14, 9, 7, 4, 10, 2, 12, 19, 3, 6]

sol 0 : level: 19

mutationtracker:[40, 127, 42, 49, 224, 25, 62, 49, 132, 47, 109, 135, 71, 124, 142, 252, 127, 255, 233]

cost: 2.0707097084500345

mutsum 123

mutsum2 581.5

sol 1 : level: 19

mutationtracker:[40, 127, 42, 49, 224, 62, 174, 227, 25, 60, 235, 105, 79, 139, 147, 30, 23, 278, 29]

cost: 0.32843931616791916

mutsum 117

mutsum2 588.5

sol 2 : level: 19

mutationtracker:[40, 127, 42, 49, 224, 25, 77, 74, 62, 92, 109, 180, 244, 33, 78, 98, 112, 0, 285]

cost: 3.1778355905524704

mutsum 111

mutsum2 547.5

duration: 300.967 sec

Run 69: genome to sequence: [13, 4, 12, 5, 21, 18, 6, 16, 17, 8, 3, 22, 23, 25, 20, 10, 11, 9, 19, 14, 15, 1, 2, 24, 7]

sol 0 : level: 18

mutationtracker:[1, 15, 28, 30, 32, 61, 78, 231, 22, 109, 89, 92, 149, 77, 129, 90, 153, 228]

cost: 1.9596026846827803

mutsum 88

mutsum2 331.0

sol 1 : level: 18

mutationtracker:[1, 15, 28, 30, 32, 61, 78, 231, 22, 109, 89, 180, 11, 93, 99, 189, 156, 201]

cost: 1.6596026846827803

mutsum 88

mutsum2 343.0

sol 2 : level: 18

mutationtracker:[1, 15, 28, 30, 32, 61, 78, 231, 22, 109, 92, 149, 77, 129, 90, 153, 228, 89]

cost: 0.6096026846827803

mutsum 88

mutsum2 331.0

sol 3 : level: 18

mutationtracker:[1, 15, 28, 30, 32, 61, 78, 231, 46, 66, 92, 144, 180, 11, 56, 177, 201, 87]

cost: 0.6090570775985314

mutsum 83

mutsum2 311.5

duration: 300.985 sec

Run 70: genome to sequence: [2, 4, 1, 11, 21, 15, 3, 17, 12, 14, 6, 9, 7, 5, 20, 24, 8, 10, 19, 13, 25, 23, 18, 22, 16]

sol 0 : level: 23

mutationtracker:[277, 1, 0, 17, 16, 6, 31, 46, 67, 58, 61, 55, 51, 225, 62, 87, 108, 7, 99, 162, 71, 271, 92]

cost: 0.9664170443130823

mutsum 107

mutsum2 510.5

sol 1 : level: 22

mutationtracker:[277, 1, 0, 17, 16, 6, 31, 46, 67, 58, 61, 55, 51, 225, 62, 87, 156, 76, 23, 244, 149, 166]

cost: 1.6585603317930662

mutsum 106

mutsum2 499.0

sol 2 : level: 22

mutationtracker:[277, 1, 0, 17, 16, 6, 31, 46, 67, 58, 61, 56, 31, 225, 100, 62, 87, 187, 131, 244, 26, 149]

cost: 1.4753077563068373

mutsum 107

mutsum2 504.5

sol 3 : level: 22

mutationtracker:[277, 1, 0, 17, 16, 6, 31, 46, 67, 58, 61, 56, 31, 225, 100, 126, 145, 89, 71, 229, 92, 208]

cost: 2.025469272001046

mutsum 109

mutsum2 501.5

sol 4 : level: 22

mutationtracker:[277, 1, 0, 17, 16, 6, 31, 46, 67, 58, 61, 225, 97, 202, 61, 87, 39, 232, 109, 18, 247, 257]

cost: 2.9433473063742785

mutsum 124

mutsum2 692.0

sol 5 : level: 21

mutationtracker:[277, 1, 0, 17, 16, 6, 31, 46, 67, 58, 61, 225, 97, 202, 131, 57, 87, 146, 127, 232, 149]

cost: 1.4097851673002646

mutsum 113

mutsum2 535.5

sol 6 : level: 21

mutationtracker:[277, 1, 0, 17, 16, 6, 78, 12, 121, 40, 18, 31, 100, 87, 89, 2, 237, 221, 189, 149, 101]

cost: 0.8838326288905044

mutsum 102

mutsum2 489.0

sol 7 : level: 21

mutationtracker:[277, 1, 0, 17, 16, 6, 78, 12, 121, 46, 31, 40, 100, 67, 87, 156, 2, 184, 244, 149, 113]

cost: 1.0585728456878425

mutsum 99

mutsum2 452.5

sol 8 : level: 21

mutationtracker:[277, 1, 0, 17, 16, 6, 78, 12, 121, 46, 31, 40, 67, 87, 156, 93, 77, 193, 293, 2, 172]

cost: 1.5840924120931663

mutsum 105

mutsum2 573.5

sol 9 : level: 21

mutationtracker:[277, 1, 0, 17, 16, 6, 78, 12, 121, 40, 31, 100, 166, 121, 18, 87, 89, 26, 74, 257, 233]

cost: 2.283832628890505

mutsum 102

mutsum2 505.0

duration: 301.602 sec

Run 71: genome to sequence: [12, 6, 5, 21, 25, 18, 24, 13, 7, 4, 17, 15, 1, 19, 23, 9, 14, 20, 3, 22, 10, 11, 2, 8, 16]

sol 0 : level: 17

mutationtracker:[84, 111, 2, 183, 32, 49, 47, 59, 66, 41, 256, 84, 16, 145, 137, 221, 293]

cost: 2.9874834512886346

mutsum 105

mutsum2 576.5

sol 1 : level: 17

mutationtracker:[84, 111, 2, 183, 32, 49, 47, 66, 41, 256, 84, 16, 145, 137, 221, 293, 68]

cost: 0.4374834512886348

mutsum 105

mutsum2 576.5

sol 2 : level: 17

mutationtracker:[84, 111, 2, 183, 32, 49, 47, 66, 41, 256, 202, 7, 108, 191, 88, 248, 179]

cost: 1.2874834512886346

mutsum 105

mutsum2 506.5

sol 3 : level: 17

mutationtracker:[84, 111, 2, 183, 32, 49, 47, 66, 41, 256, 17, 109, 150, 263, 97, 121, 85]

cost: 0.5779612178325743

mutsum 95

mutsum2 433.5

duration: 300.034 sec

Run 72: genome to sequence: [3, 1, 10, 11, 17, 6, 4, 16, 7, 2, 25, 20, 9, 22, 15, 5, 13, 19, 21, 23, 14, 12, 18, 24, 8]

sol 0 : level: 19

mutationtracker:[29, 86, 153, 202, 0, 10, 18, 8, 64, 67, 85, 21, 94, 148, 78, 179, 99, 138, 246]

cost: 2.3843577470394575

mutsum 93

mutsum2 364.5

sol 1 : level: 19

mutationtracker:[29, 86, 153, 202, 0, 10, 18, 8, 64, 67, 85, 148, 78, 21, 7, 252, 280, 91, 271]

cost: 2.702634348680654

mutsum 109

mutsum2 612.5

sol 2 : level: 19

mutationtracker:[29, 86, 153, 202, 0, 10, 18, 8, 64, 67, 85, 148, 91, 179, 78, 99, 138, 246, 17]

cost: 0.16769108037279043

mutsum 93

mutsum2 364.5

sol 3 : level: 19

mutationtracker:[29, 86, 153, 202, 0, 10, 18, 8, 64, 67, 85, 148, 179, 17, 138, 81, 101, 246, 101]

cost: 0.8010244137061238

mutsum 93

mutsum2 364.5

sol 4 : level: 19

mutationtracker:[29, 86, 153, 202, 0, 10, 18, 8, 64, 67, 85, 21, 194, 148, 119, 91, 163, 246, 146]

cost: 1.1182948059882392

mutsum 99

mutsum2 403.5

sol 5 : level: 18

mutationtracker:[29, 86, 153, 202, 0, 10, 18, 8, 64, 67, 85, 21, 2, 179, 213, 149, 70, 91]

cost: 0.7586205919311323

mutsum 79

mutsum2 287.5

duration: 300.159 sec

Run 73: genome to sequence: [12, 25, 16, 15, 23, 4, 1, 18, 9, 14, 24, 13, 6, 2, 17, 8, 7, 3, 22, 5, 20, 19, 10, 21, 11]

sol 0 : level: 16

mutationtracker:[60, 94, 153, 122, 148, 23, 39, 67, 82, 208, 254, 0, 90, 199, 147, 156]

cost: 1.0795572916666667

mutsum 99

mutsum2 424.5

sol 1 : level: 16

mutationtracker:[60, 94, 153, 122, 148, 23, 39, 67, 82, 0, 90, 249, 147, 218, 89, 163]

cost: 1.0787760416666667

mutsum 93

mutsum2 383.5

duration: 301.693 sec

Run 74: genome to sequence: [10, 24, 14, 4, 1, 13, 8, 16, 20, 9, 5, 3, 12, 2, 18, 19, 23, 25, 17, 22, 11, 6, 7, 21, 15]

sol 0 : level: 20

mutationtracker:[12, 134, 232, 39, 18, 28, 50, 77, 57, 107, 102, 34, 196, 12, 0, 221, 17, 101, 140, 180]

cost: 1.6756109385766658

mutsum 96

mutsum2 379.0

sol 1 : level: 19

mutationtracker:[12, 134, 232, 39, 18, 28, 50, 77, 57, 107, 102, 34, 196, 121, 0, 158, 14, 180, 194]

cost: 1.5928923222446068

mutsum 95

mutsum2 369.5

sol 2 : level: 19

mutationtracker:[12, 134, 232, 39, 18, 28, 50, 77, 107, 82, 18, 57, 38, 141, 223, 14, 194, 47, 209]

cost: 1.9094583679753652

mutsum 94

mutsum2 390.0

sol 3 : level: 19

mutationtracker:[12, 134, 232, 39, 18, 28, 50, 77, 107, 82, 57, 141, 39, 223, 14, 194, 47, 209, 11]

cost: 0.16779170130869858

mutsum 94

mutsum2 390.0

sol 4 : level: 19

mutationtracker:[12, 134, 232, 39, 18, 28, 107, 77, 57, 102, 34, 196, 12, 0, 221, 121, 122, 180, 47]

cost: 0.4845589889112734

mutsum 95

mutsum2 377.5

sol 5 : level: 19

mutationtracker:[12, 134, 232, 39, 18, 28, 107, 77, 57, 102, 34, 196, 0, 121, 158, 194, 180, 47, 23]

cost: 0.16789232224460673

mutsum 95

mutsum2 369.5

duration: 301.607 sec

Run 75: genome to sequence: [9, 17, 12, 10, 21, 3, 19, 5, 11, 14, 20, 4, 15, 13, 7, 6, 1, 8, 23, 22, 16, 25, 24, 18, 2]

sol 0 : level: 18

mutationtracker:[54, 255, 220, 43, 125, 51, 213, 52, 161, 150, 98, 159, 109, 126, 1, 63, 258, 91]

cost: 0.7633128128556727

mutsum 122

mutsum2 590.0

sol 1 : level: 17

mutationtracker:[54, 255, 220, 43, 125, 51, 213, 52, 161, 150, 98, 12, 38, 159, 212, 280, 298]

cost: 3.2753346050883314

mutsum 143

mutsum2 933.5

sol 2 : level: 17

mutationtracker:[54, 255, 220, 43, 125, 51, 213, 52, 161, 150, 120, 64, 263, 258, 132, 165, 223]

cost: 1.8586679384216644

mutsum 143

mutsum2 797.5

sol 3 : level: 17

mutationtracker:[54, 255, 220, 43, 125, 51, 213, 117, 141, 128, 18, 185, 93, 235, 239, 200, 246]

cost: 2.142001271754998

mutsum 143

mutsum2 793.5

duration: 300.116 sec

Run 76: genome to sequence: [23, 20, 2, 9, 6, 8, 12, 14, 17, 16, 5, 10, 22, 21, 7, 24, 15, 1, 25, 11, 18, 19, 4, 13, 3]

sol 0 : level: 19

mutationtracker:[3, 114, 23, 39, 78, 130, 136, 143, 22, 101, 146, 246, 16, 125, 103, 66, 90, 255, 206]

cost: 1.7527349696165622

mutsum 110

mutsum2 489.0

sol 1 : level: 19

mutationtracker:[3, 114, 23, 39, 78, 130, 136, 143, 22, 101, 146, 246, 153, 15, 16, 87, 188, 66, 294]

cost: 3.494602878155045

mutsum 112

mutsum2 590.0

sol 2 : level: 19

mutationtracker:[3, 114, 23, 39, 78, 130, 136, 143, 22, 101, 146, 246, 160, 44, 17, 60, 186, 294, 255]

cost: 2.545910950321851

mutsum 125

mutsum2 711.5

sol 3 : level: 19

mutationtracker:[3, 114, 23, 39, 78, 130, 136, 143, 101, 146, 246, 16, 123, 44, 42, 153, 21, 294, 236]

cost: 2.228539937103827

mutsum 118

mutsum2 647.0

sol 4 : level: 19

mutationtracker:[3, 114, 23, 39, 78, 130, 136, 143, 101, 146, 246, 153, 15, 16, 87, 188, 66, 294, 2]

cost: 0.16960287815504513

mutsum 112

mutsum2 590.0

sol 5 : level: 19

mutationtracker:[3, 114, 23, 39, 78, 130, 137, 106, 260, 27, 67, 90, 51, 108, 117, 12, 289, 255, 195]

cost: 1.7538417999115516

mutsum 121

mutsum2 661.5

sol 6 : level: 19

mutationtracker:[3, 114, 23, 39, 78, 130, 137, 106, 260, 27, 90, 51, 117, 12, 207, 289, 255, 90, 49]

cost: 0.4871751332448851

mutsum 121

mutsum2 661.5

sol 7 : level: 19

mutationtracker:[3, 114, 23, 39, 78, 130, 137, 106, 260, 67, 90, 52, 78, 108, 27, 183, 297, 208, 12]

cost: 0.1700053618986777

mutsum 116

mutsum2 638.0

sol 8 : level: 19

mutationtracker:[3, 114, 23, 39, 78, 130, 137, 106, 260, 67, 90, 108, 51, 117, 289, 3, 198, 209, 120]

cost: 0.9621751332448851

mutsum 121

mutsum2 621.5

sol 9 : level: 19

mutationtracker:[3, 114, 23, 39, 78, 130, 137, 106, 109, 257, 106, 44, 61, 102, 111, 129, 264, 126, 219]

cost: 1.9117726495012524

mutsum 117

mutsum2 539.5

sol 10 : level: 19

mutationtracker:[3, 114, 23, 39, 155, 113, 41, 47, 80, 61, 128, 40, 186, 105, 236, 40, 43, 144, 39]

cost: 0.3253200671547668

mutsum 86

mutsum2 301.0

duration: 300.145 sec

Run 77: genome to sequence: [25, 13, 17, 10, 9, 1, 6, 3, 15, 12, 14, 7, 21, 5, 20, 19, 24, 23, 22, 18, 11, 16, 4, 2, 8]

sol 0 : level: 20

mutationtracker:[258, 108, 12, 9, 40, 62, 59, 11, 105, 211, 164, 167, 100, 37, 89, 123, 97, 110, 208, 299]

cost: 4.012112034878124

mutsum 130

mutsum2 738.0

sol 1 : level: 19

mutationtracker:[258, 108, 12, 9, 40, 62, 59, 11, 105, 211, 164, 167, 100, 63, 163, 142, 97, 110, 299]

cost: 3.8125776169885177

mutsum 125

mutsum2 710.5

sol 2 : level: 19

mutationtracker:[258, 108, 12, 9, 40, 62, 59, 11, 105, 211, 164, 30, 119, 212, 110, 47, 209, 279, 271]

cost: 2.705250493014266

mutsum 135

mutsum2 789.5

sol 3 : level: 19

mutationtracker:[258, 108, 12, 9, 40, 62, 59, 11, 105, 211, 164, 37, 116, 174, 57, 222, 114, 271, 68]

cost: 0.4867726495012525

mutsum 117

mutsum2 594.5

sol 4 : level: 19

mutationtracker:[258, 108, 12, 9, 40, 62, 59, 11, 105, 211, 164, 212, 174, 146, 49, 0, 74, 284, 279]

cost: 3.021615296873208

mutsum 132

mutsum2 789.0

sol 5 : level: 19

mutationtracker:[258, 108, 12, 9, 40, 62, 59, 11, 105, 211, 164, 212, 50, 47, 97, 89, 123, 244, 290]

cost: 3.337678237924426

mutsum 126

mutsum2 716.0

sol 6 : level: 19

mutationtracker:[258, 108, 12, 9, 40, 62, 59, 11, 105, 211, 164, 212, 53, 113, 110, 174, 146, 299, 234]

cost: 2.230652976757898

mutsum 139

mutsum2 841.5

sol 7 : level: 19

mutationtracker:[258, 108, 12, 9, 40, 62, 59, 11, 105, 211, 164, 212, 123, 89, 50, 97, 244, 290, 65]

cost: 0.4876782379244258

mutsum 126

mutsum2 716.0

sol 8 : level: 19

mutationtracker:[258, 108, 12, 9, 40, 62, 59, 11, 105, 211, 164, 212, 90, 27, 174, 24, 255, 271, 110]

cost: 0.962778858860334

mutsum 127

mutsum2 697.5

sol 9 : level: 19

mutationtracker:[258, 108, 12, 9, 40, 62, 59, 11, 105, 211, 164, 212, 113, 110, 94, 279, 163, 190, 136]

cost: 1.1215146759372998

mutsum 131

mutsum2 685.5

sol 10 : level: 19

mutationtracker:[258, 108, 12, 9, 40, 62, 59, 11, 105, 211, 164, 209, 154, 37, 89, 123, 222, 244, 280]

cost: 3.0220177806168405

mutsum 136

mutsum2 773.0

sol 11 : level: 19

mutationtracker:[258, 108, 12, 9, 40, 62, 59, 11, 105, 13, 100, 91, 28, 94, 174, 146, 244, 299, 59]

cost: 0.48626954482171175

mutsum 112

mutsum2 661.0

sol 12 : level: 18

mutationtracker:[258, 108, 12, 9, 40, 62, 59, 11, 91, 28, 105, 169, 154, 37, 151, 209, 279, 271]

cost: 2.5629854486051236

mutsum 119

mutsum2 683.5

sol 13 : level: 18

mutationtracker:[258, 108, 12, 9, 40, 62, 59, 11, 91, 28, 94, 79, 84, 19, 189, 146, 244, 299]

cost: 3.611785113019776

mutsum 108

mutsum2 657.0

sol 14 : level: 18

mutationtracker:[258, 108, 12, 9, 40, 62, 80, 59, 85, 91, 28, 120, 74, 134, 151, 285, 271, 233]

cost: 1.963203691438823

mutsum 121

mutsum2 694.5

duration: 203.632 sec

Run 78: genome to sequence: [7, 10, 17, 14, 5, 2, 19, 13, 6, 25, 4, 16, 21, 12, 9, 11, 23, 3, 15, 8, 18, 20, 1, 24, 22]

sol 0 : level: 25

mutationtracker:[51, 121, 251, 12, 5, 42, 44, 46, 56, 74, 48, 50, 24, 75, 125, 21, 153, 92, 129, 15, 64, 13, 142, 209, 272]

cost: 3.758

mutsum 120

mutsum2 525.0

sol 1 : level: 25

mutationtracker:[51, 121, 251, 12, 5, 42, 44, 46, 56, 74, 48, 50, 24, 75, 125, 21, 153, 92, 15, 64, 124, 98, 104, 203, 222]

cost: 2.716

mutsum 115

mutsum2 429.5

sol 2 : level: 25

mutationtracker:[51, 121, 251, 12, 5, 42, 44, 46, 56, 74, 48, 50, 24, 75, 125, 21, 153, 92, 105, 62, 129, 124, 63, 245, 266]

cost: 3.5501333333333336

mutsum 127

mutsum2 557.5

sol 3 : level: 25

mutationtracker:[51, 121, 251, 12, 5, 42, 44, 46, 56, 74, 48, 50, 24, 75, 125, 21, 153, 15, 64, 129, 124, 123, 116, 215, 195]

cost: 2.2995333333333337

mutsum 118

mutsum2 440.0

sol 4 : level: 24

mutationtracker:[51, 121, 251, 12, 5, 42, 44, 46, 56, 74, 48, 50, 24, 75, 125, 21, 153, 92, 19, 62, 129, 124, 264, 249]

cost: 3.0085051727179972

mutsum 120

mutsum2 541.0

sol 5 : level: 23

mutationtracker:[51, 121, 251, 12, 5, 42, 44, 46, 56, 74, 48, 50, 24, 75, 125, 21, 153, 0, 111, 84, 187, 190, 209]

cost: 2.3082348083812394

mutsum 109

mutsum2 422.5

sol 6 : level: 23

mutationtracker:[51, 121, 251, 12, 5, 42, 44, 46, 56, 74, 48, 50, 24, 75, 126, 144, 153, 92, 129, 19, 62, 234, 285]

cost: 3.842550274824262

mutsum 122

mutsum2 588.0

sol 7 : level: 23

mutationtracker:[51, 121, 251, 12, 5, 42, 44, 46, 56, 74, 48, 50, 24, 75, 126, 144, 19, 62, 13, 211, 47, 285, 190]

cost: 1.9252792185516328

mutsum 114

mutsum2 548.0

sol 8 : level: 20

mutationtracker:[51, 121, 251, 12, 5, 42, 44, 46, 56, 74, 48, 50, 75, 125, 21, 153, 92, 91, 255, 274]

cost: 3.010062305898749

mutsum 108

mutsum2 537.0

sol 9 : level: 20

mutationtracker:[51, 121, 251, 12, 5, 93, 2, 42, 1, 44, 46, 76, 125, 21, 255, 169, 184, 77, 274, 190]

cost: 1.6775674980569781

mutsum 117

mutsum2 620.5

sol 10 : level: 20

mutationtracker:[51, 121, 251, 12, 5, 42, 44, 46, 72, 55, 32, 75, 125, 21, 255, 211, 37, 71, 274, 76]

cost: 0.6767289725654158

mutsum 108

mutsum2 563.0

sol 11 : level: 20

mutationtracker:[51, 121, 251, 12, 5, 93, 2, 42, 1, 44, 46, 97, 7, 93, 2, 126, 15, 184, 272, 287]

cost: 3.3432093002339576

mutsum 106

mutsum2 612.0

sol 12 : level: 20

mutationtracker:[51, 121, 251, 12, 5, 93, 2, 42, 1, 45, 89, 85, 76, 72, 144, 166, 182, 47, 259, 164]

cost: 1.5099691363996866

mutsum 107

mutsum2 473.5

sol 13 : level: 20

mutationtracker:[51, 121, 251, 12, 5, 42, 44, 46, 72, 55, 30, 125, 21, 112, 182, 255, 240, 149, 71, 117]

cost: 1.010434983894999

mutsum 112

mutsum2 527.0

sol 14 : level: 20

mutationtracker:[51, 121, 251, 12, 5, 93, 2, 42, 44, 46, 76, 72, 125, 21, 255, 169, 85, 240, 149, 33]

cost: 0.3432093002339574

mutsum 106

mutsum2 498.0

duration: 242.009 sec

Run 79: genome to sequence: [15, 3, 2, 20, 22, 4, 25, 18, 17, 12, 19, 11, 6, 24, 7, 16, 13, 9, 21, 1, 8, 10, 14, 23, 5]

sol 0 : level: 15

mutationtracker:[119, 207, 225, 215, 233, 5, 7, 117, 47, 121, 132, 190, 75, 127, 220]

cost: 1.5159222648677415

mutsum 111

mutsum2 533.5

duration: 300.958 sec

Run 80: genome to sequence: [12, 19, 21, 24, 16, 6, 1, 10, 14, 23, 8, 2, 20, 5, 7, 9, 22, 25, 15, 18, 13, 11, 3, 17, 4]

sol 0 : level: 22

mutationtracker:[225, 159, 196, 23, 39, 51, 7, 96, 140, 65, 51, 55, 141, 128, 23, 40, 24, 50, 183, 66, 219, 222]

cost: 2.3929435171387565

mutsum 119

mutsum2 497.5

sol 1 : level: 22

mutationtracker:[225, 159, 196, 23, 39, 51, 7, 96, 140, 65, 51, 55, 141, 128, 23, 50, 24, 183, 219, 222, 38, 47]

cost: 0.5596101838054234

mutsum 119

mutsum2 497.5

sol 2 : level: 22

mutationtracker:[225, 159, 196, 23, 39, 51, 7, 96, 140, 65, 51, 55, 141, 128, 23, 24, 202, 76, 93, 147, 96, 294]

cost: 4.04391261130401

mutsum 131

mutsum2 647.5

sol 3 : level: 22

mutationtracker:[225, 159, 196, 23, 39, 51, 7, 96, 140, 51, 55, 145, 141, 128, 23, 24, 183, 100, 85, 192, 222, 0]

cost: 0.1932665485271743

mutsum 123

mutsum2 505.5

sol 4 : level: 22

mutationtracker:[225, 159, 196, 23, 39, 51, 7, 96, 51, 141, 35, 55, 108, 104, 128, 23, 76, 229, 150, 126, 245, 276]

cost: 3.3113060985946157

mutsum 140

mutsum2 693.0

sol 5 : level: 21

mutationtracker:[225, 159, 196, 23, 39, 96, 51, 7, 216, 127, 129, 95, 11, 154, 71, 62, 88, 162, 232, 244, 296]

cost: 3.8630757545339818

mutsum 151

mutsum2 833.5

sol 6 : level: 21

mutationtracker:[225, 159, 196, 23, 39, 96, 51, 7, 216, 127, 129, 95, 11, 154, 84, 67, 71, 100, 163, 296, 120]

cost: 1.0616902441197853

mutsum 135

mutsum2 681.5

sol 7 : level: 21

mutationtracker:[225, 159, 196, 23, 39, 96, 51, 7, 216, 127, 129, 95, 11, 154, 62, 88, 79, 179, 71, 296, 101]

cost: 0.886603649718898

mutsum 134

mutsum2 680.0

sol 8 : level: 21

mutationtracker:[225, 159, 196, 23, 39, 96, 51, 7, 216, 127, 129, 95, 11, 154, 232, 31, 83, 57, 247, 208, 174]

cost: 1.587123216124222

mutsum 140

mutsum2 669.0

sol 9 : level: 19

mutationtracker:[225, 159, 196, 23, 39, 96, 51, 7, 216, 127, 129, 137, 92, 134, 5, 257, 178, 194, 278]

cost: 2.864288172898956

mutsum 142

mutsum2 754.0

duration: 304.678 sec

Run 81: genome to sequence: [16, 25, 17, 23, 24, 9, 15, 1, 6, 7, 4, 5, 12, 18, 14, 8, 10, 3, 19, 21, 13, 11, 22, 2, 20]

sol 0 : level: 20

mutationtracker:[108, 1, 23, 3, 43, 64, 61, 186, 5, 9, 62, 134, 92, 118, 72, 42, 201, 90, 285, 128]

cost: 1.0090374414090617

mutsum 97

mutsum2 436.5

sol 1 : level: 18

mutationtracker:[108, 1, 23, 3, 43, 64, 61, 186, 5, 9, 62, 142, 245, 175, 116, 128, 201, 214]

cost: 1.8105847774344284

mutsum 97

mutsum2 426.5

sol 2 : level: 18

mutationtracker:[108, 1, 23, 3, 43, 64, 61, 186, 245, 5, 175, 9, 132, 128, 130, 82, 196, 102]

cost: 0.7600391703501793

mutsum 92

mutsum2 377.0

sol 3 : level: 17

mutationtracker:[108, 1, 23, 3, 43, 64, 61, 186, 245, 135, 9, 116, 113, 190, 128, 111, 181]

cost: 1.427723437808029

mutsum 93

mutsum2 384.5

duration: 300.559 sec

Run 82: genome to sequence: [25, 5, 2, 24, 17, 23, 16, 13, 3, 7, 20, 1, 8, 18, 12, 19, 22, 15, 21, 14, 4, 11, 10, 9, 6]

sol 0 : level: 20

mutationtracker:[17, 4, 203, 12, 24, 40, 272, 33, 42, 30, 49, 70, 127, 41, 155, 32, 132, 1, 293, 111]

cost: 1.009503288904374

mutsum 102

mutsum2 564.0

sol 1 : level: 20

mutationtracker:[17, 4, 203, 12, 24, 40, 272, 33, 42, 30, 49, 70, 127, 38, 155, 132, 1, 293, 111, 32]

cost: 0.34283662223770744

mutsum 102

mutsum2 564.0

sol 2 : level: 19

mutationtracker:[17, 4, 203, 12, 24, 40, 272, 33, 42, 30, 49, 127, 168, 57, 120, 174, 179, 89, 273]

cost: 2.860967682013987

mutsum 109

mutsum2 570.5

sol 3 : level: 19

mutationtracker:[17, 4, 203, 12, 24, 40, 272, 33, 42, 30, 70, 127, 183, 78, 138, 189, 194, 109, 265]

cost: 2.703238074296103

mutsum 115

mutsum2 599.5

sol 4 : level: 19

mutationtracker:[17, 4, 203, 12, 24, 40, 272, 33, 42, 30, 70, 3, 183, 78, 243, 163, 33, 265, 111]

cost: 0.9608670610780793

mutsum 108

mutsum2 595.0

sol 5 : level: 19

mutationtracker:[17, 4, 203, 12, 24, 40, 272, 33, 30, 49, 70, 128, 86, 155, 32, 165, 174, 298, 171]

cost: 1.4367726495012525

mutsum 117

mutsum2 690.5

sol 6 : level: 19

mutationtracker:[17, 4, 203, 12, 24, 40, 272, 33, 30, 49, 127, 168, 57, 120, 174, 179, 89, 273, 25]

cost: 0.32763434868065405

mutsum 109

mutsum2 570.5

sol 7 : level: 19

mutationtracker:[17, 4, 203, 12, 24, 40, 272, 33, 30, 49, 127, 168, 23, 174, 63, 87, 208, 273, 51]

cost: 0.48576644014217113

mutsum 107

mutsum2 575.5

duration: 300.337 sec

Run 83: genome to sequence: [7, 13, 9, 24, 1, 2, 16, 4, 6, 5, 20, 17, 14, 12, 11, 25, 8, 3, 22, 15, 18, 23, 21, 10, 19]

sol 0 : level: 25

mutationtracker:[8, 42, 122, 198, 20, 25, 76, 51, 76, 104, 108, 129, 185, 40, 28, 23, 22, 21, 20, 19, 91, 110, 215, 18, 264]

cost: 3.5490666666666666

mutsum 111

mutsum2 457.5

sol 1 : level: 22

mutationtracker:[8, 42, 122, 198, 20, 25, 76, 51, 76, 104, 108, 129, 185, 40, 28, 23, 22, 43, 66, 202, 272, 18]

cost: 0.19157063373798194

mutsum 102

mutsum2 438.0

sol 2 : level: 22

mutationtracker:[8, 42, 122, 198, 20, 25, 76, 51, 76, 104, 108, 129, 185, 40, 28, 7, 147, 188, 108, 92, 128, 247]

cost: 2.759287152417006

mutsum 115

mutsum2 445.5

sol 3 : level: 19

mutationtracker:[8, 42, 122, 198, 20, 25, 76, 51, 76, 104, 108, 129, 185, 40, 28, 202, 272, 108, 128]

cost: 0.9605651982703549

mutsum 105

mutsum2 460.5

sol 4 : level: 19

mutationtracker:[8, 42, 122, 198, 20, 25, 76, 51, 76, 104, 108, 129, 14, 199, 272, 108, 128, 47, 209]

cost: 1.9107664401421711

mutsum 107

mutsum2 483.5

sol 5 : level: 19

mutationtracker:[8, 42, 122, 198, 20, 25, 76, 51, 76, 104, 108, 168, 157, 108, 128, 151, 50, 209, 116]

cost: 0.9601627145267223

mutsum 101

mutsum2 358.5

sol 6 : level: 19

mutationtracker:[8, 42, 122, 198, 20, 25, 76, 51, 104, 108, 140, 108, 128, 168, 121, 50, 110, 209, 13]

cost: 0.16789232224460673

mutsum 95

mutsum2 329.5

duration: 301.941 sec

Run 84: genome to sequence: [10, 4, 1, 19, 2, 12, 5, 15, 13, 3, 6, 14, 23, 21, 24, 11, 18, 8, 9, 16, 17, 7, 25, 22, 20]

sol 0 : level: 16

mutationtracker:[54, 52, 64, 193, 10, 2, 49, 69, 51, 229, 161, 15, 79, 190, 109, 215]

cost: 1.6109375

mutsum 84

mutsum2 341.0

duration: 301.907 sec

Run 85: genome to sequence: [18, 17, 15, 6, 1, 9, 5, 16, 7, 13, 4, 10, 3, 21, 14, 8, 12, 11, 20, 19, 22, 23, 24, 2, 25]

sol 0 : level: 17

mutationtracker:[72, 95, 136, 2, 53, 59, 120, 121, 108, 88, 202, 42, 73, 69, 70, 201, 247]

cost: 2.136294551165908

mutsum 95

mutsum2 370.5

sol 1 : level: 17

mutationtracker:[72, 95, 136, 2, 53, 59, 120, 121, 108, 88, 47, 129, 17, 272, 42, 247, 214]

cost: 1.7121267812518168

mutsum 102

mutsum2 489.0

sol 2 : level: 17

mutationtracker:[72, 95, 136, 2, 53, 59, 120, 121, 108, 88, 188, 94, 5, 4, 238, 264, 42]

cost: 0.29450899448696827

mutsum 94

mutsum2 419.0

sol 3 : level: 17

mutationtracker:[72, 95, 136, 2, 53, 59, 120, 121, 108, 88, 17, 19, 272, 175, 101, 236, 266]

cost: 2.421292344671059

mutsum 109

mutsum2 569.5

sol 4 : level: 17

mutationtracker:[72, 95, 136, 2, 53, 59, 120, 121, 108, 202, 43, 73, 45, 226, 42, 264, 87]

cost: 0.5779612178325743

mutsum 95

mutsum2 414.5

sol 5 : level: 17

mutationtracker:[72, 95, 136, 2, 53, 59, 120, 121, 108, 202, 147, 22, 43, 243, 169, 52, 277]

cost: 2.5626023413009076

mutsum 106

mutsum2 503.0

sol 6 : level: 17

mutationtracker:[72, 95, 136, 2, 53, 59, 120, 121, 108, 202, 42, 73, 226, 89, 87, 264, 89]

cost: 0.5784367778816651

mutsum 99

mutsum2 426.5

sol 7 : level: 16

mutationtracker:[72, 95, 136, 2, 53, 59, 120, 121, 108, 88, 28, 171, 40, 42, 264, 197]

cost: 1.4779947916666667

mutsum 87

mutsum2 362.5

sol 8 : level: 15

mutationtracker:[72, 95, 136, 2, 53, 59, 120, 133, 51, 129, 203, 88, 67, 148, 273]

cost: 2.2629099444873577

mutsum 90

mutsum2 393.0

duration: 301.059 sec

Run 86: genome to sequence: [17, 13, 6, 11, 10, 22, 16, 18, 7, 1, 12, 24, 2, 21, 25, 9, 5, 14, 19, 15, 23, 20, 4, 8, 3]

sol 0 : level: 21

mutationtracker:[18, 202, 112, 219, 11, 41, 42, 48, 95, 102, 118, 84, 158, 22, 108, 89, 9, 180, 153, 240, 71]

cost: 0.7097851673002648

mutsum 113

mutsum2 452.5

sol 1 : level: 21

mutationtracker:[18, 202, 112, 219, 11, 41, 42, 48, 95, 102, 118, 84, 158, 9, 180, 153, 108, 89, 240, 71, 7]

cost: 0.18478516730026476

mutsum 113

mutsum2 452.5

sol 2 : level: 21

mutationtracker:[18, 202, 112, 219, 11, 41, 42, 48, 95, 102, 118, 84, 158, 180, 153, 22, 108, 89, 240, 71, 0]

cost: 0.18478516730026476

mutsum 113

mutsum2 452.5

sol 3 : level: 21

mutationtracker:[18, 202, 112, 219, 11, 41, 42, 48, 95, 102, 118, 103, 17, 86, 146, 121, 33, 195, 237, 161, 282]

cost: 3.3363438665162364

mutsum 131

mutsum2 639.5

sol 4 : level: 19

mutationtracker:[18, 202, 112, 219, 11, 41, 42, 48, 96, 100, 63, 200, 84, 146, 39, 89, 203, 120, 255]

cost: 2.5446028781550454

mutsum 112

mutsum2 499.0

duration: 301.733 sec

Run 87: genome to sequence: [8, 21, 10, 13, 23, 24, 16, 19, 9, 1, 4, 2, 6, 11, 3, 18, 5, 15, 25, 7, 17, 14, 22, 20, 12]

sol 0 : level: 19

mutationtracker:[268, 255, 189, 1, 27, 2, 6, 28, 31, 138, 36, 144, 75, 104, 67, 232, 109, 215, 278]

cost: 2.862879479796242

mutsum 128

mutsum2 737.0

sol 1 : level: 19

mutationtracker:[268, 255, 189, 1, 27, 2, 6, 28, 31, 138, 36, 144, 35, 117, 174, 63, 75, 145, 233]

cost: 2.069602878155045

mutsum 112

mutsum2 563.0

sol 2 : level: 18

mutationtracker:[268, 255, 189, 1, 27, 2, 6, 28, 31, 138, 75, 82, 109, 215, 84, 141, 19, 173]

cost: 1.3614577487692263

mutsum 105

mutsum2 528.5

sol 3 : level: 18

mutationtracker:[268, 255, 189, 1, 27, 2, 6, 28, 31, 138, 75, 139, 109, 18, 37, 142, 153, 216]

cost: 1.8114577487692263

mutsum 105

mutsum2 530.5

sol 4 : level: 18

mutationtracker:[268, 255, 189, 1, 27, 2, 6, 28, 31, 138, 76, 82, 109, 215, 41, 189, 64, 85]

cost: 0.611239505935527

mutsum 103

mutsum2 519.5

duration: 300.858 sec

Run 88: genome to sequence: [12, 7, 1, 23, 9, 17, 19, 25, 8, 21, 18, 14, 11, 10, 22, 20, 16, 3, 15, 6, 2, 13, 5, 4, 24]

sol 0 : level: 25

mutationtracker:[266, 3, 59, 39, 186, 16, 39, 79, 31, 109, 111, 134, 90, 141, 66, 133, 158, 47, 133, 195, 63, 163, 105, 234, 279]

cost: 3.969

mutsum 160

mutsum2 784.0

sol 1 : level: 25

mutationtracker:[266, 3, 59, 39, 186, 16, 39, 79, 31, 109, 111, 134, 90, 141, 66, 133, 158, 109, 88, 47, 108, 133, 192, 107, 255]

cost: 3.3430000000000004

mutsum 145

mutsum2 619.5

sol 2 : level: 21

mutationtracker:[266, 3, 59, 39, 186, 16, 39, 79, 31, 109, 111, 134, 90, 141, 66, 133, 158, 141, 249, 195, 299]

cost: 4.212729376930433

mutsum 147

mutsum2 852.5

sol 3 : level: 21

mutationtracker:[266, 3, 59, 39, 186, 16, 39, 79, 31, 109, 111, 134, 90, 141, 133, 46, 233, 168, 90, 0, 236]

cost: 2.460651111309138

mutsum 123

mutsum2 568.5

sol 4 : level: 20

mutationtracker:[266, 3, 59, 39, 186, 16, 39, 79, 31, 109, 111, 134, 141, 66, 0, 70, 227, 141, 181, 299]

cost: 4.012018865379061

mutsum 129

mutsum2 753.5

sol 5 : level: 20

mutationtracker:[266, 3, 59, 39, 186, 40, 15, 76, 36, 124, 89, 148, 117, 110, 142, 177, 261, 69, 284, 272]

cost: 3.0135095773640614

mutsum 145

mutsum2 851.5

sol 6 : level: 20

mutationtracker:[266, 3, 59, 39, 186, 16, 39, 79, 31, 111, 134, 90, 142, 162, 36, 81, 255, 82, 208, 221]

cost: 2.011553017883749

mutsum 124

mutsum2 604.0

sol 7 : level: 20

mutationtracker:[266, 3, 59, 39, 186, 16, 39, 79, 31, 111, 134, 142, 162, 36, 81, 255, 163, 144, 206, 233]

cost: 2.178871871043853

mutsum 131

mutsum2 652.5

sol 8 : level: 20

mutationtracker:[266, 3, 59, 39, 186, 16, 76, 148, 108, 97, 102, 64, 118, 121, 55, 195, 132, 294, 89, 109]

cost: 0.8452590292133323

mutsum 128

mutsum2 672.0

duration: 300.048 sec

Run 89: genome to sequence: [15, 20, 5, 10, 4, 24, 17, 22, 21, 6, 14, 3, 9, 7, 12, 8, 1, 11, 13, 23, 25, 19, 16, 2, 18]

sol 0 : level: 20

mutationtracker:[112, 76, 14, 15, 16, 13, 45, 80, 33, 53, 110, 89, 251, 72, 67, 112, 45, 204, 243, 295]

cost: 3.677101650561666

mutsum 112

mutsum2 616.0

sol 1 : level: 20

mutationtracker:[112, 76, 14, 15, 16, 13, 45, 80, 33, 53, 110, 89, 251, 1, 92, 7, 189, 130, 295, 224]

cost: 2.1768221420644784

mutsum 109

mutsum2 597.5

sol 2 : level: 18

mutationtracker:[112, 76, 14, 15, 16, 13, 45, 80, 33, 53, 110, 89, 251, 295, 126, 86, 185, 224]

cost: 1.9614577487692264

mutsum 105

mutsum2 585.5

sol 3 : level: 18

mutationtracker:[112, 76, 14, 15, 16, 13, 45, 80, 33, 53, 240, 5, 43, 51, 285, 160, 144, 146]

cost: 1.0594935632659306

mutsum 87

mutsum2 430.5

duration: 301.526 sec

Run 90: genome to sequence: [24, 22, 17, 12, 13, 19, 15, 7, 23, 16, 25, 8, 9, 20, 18, 1, 11, 14, 6, 4, 3, 2, 5, 10, 21]

sol 0 : level: 15

mutationtracker:[112, 193, 238, 1, 29, 41, 43, 21, 52, 189, 124, 128, 164, 187, 162]

cost: 1.012909944487358

mutsum 90

mutsum2 386.0

duration: 303.702 sec

Run 91: genome to sequence: [8, 13, 14, 5, 21, 22, 16, 4, 1, 19, 24, 9, 25, 18, 20, 3, 7, 23, 2, 10, 11, 15, 17, 12, 6]

sol 0 : level: 19

mutationtracker:[10, 40, 45, 288, 60, 66, 48, 78, 8, 103, 19, 57, 130, 119, 163, 234, 50, 248, 84]

cost: 0.6438985316036882

mutsum 105

mutsum2 541.5

duration: 300.591 sec

Run 92: genome to sequence: [20, 2, 4, 16, 25, 5, 8, 15, 7, 11, 9, 1, 22, 23, 6, 12, 21, 10, 13, 14, 3, 19, 18, 24, 17]

sol 0 : level: 17

mutationtracker:[99, 289, 111, 21, 261, 20, 39, 14, 81, 60, 113, 93, 243, 123, 135, 228, 279]

cost: 2.7070034782498467

mutsum 129

mutsum2 810.5

sol 1 : level: 17

mutationtracker:[99, 289, 111, 21, 261, 20, 39, 14, 81, 60, 117, 129, 95, 114, 206, 210, 283]

cost: 2.7065279182007558

mutsum 125

mutsum2 760.5

sol 2 : level: 16

mutationtracker:[99, 289, 111, 21, 261, 20, 39, 14, 81, 63, 113, 170, 147, 116, 270, 180]

cost: 1.3483072916666667

mutsum 115

mutsum2 677.5

duration: 301.612 sec

results run 93:

minimum mutsum: 94

minimum mutsum2: 377.0

outcome with min mutsum is same outcome as min mutsum2 True

minimum levels: 19 deep

minimum level found on average in solution: 0

start cost:23.033333333333335

runtime: 301.8411982059479 sec

mutationtracker1: [167, 253, 15, 11, 48, 73, 9, 100, 53, 70, 105, 179, 86, 195, 191, 105, 136]

results run 94:

minimum mutsum: 102

minimum mutsum2: 485.0

outcome with min mutsum is same outcome as min mutsum2 True

minimum levels: 21 deep

minimum level found on average in solution: 2

start cost:23.116666666666667

runtime: 300.35382890701294 sec

mutationtracker1: [167, 253, 15, 11, 48, 73, 9, 100, 53, 70, 105, 179, 86, 195, 191, 105, 136]

results run 95:

minimum mutsum: 82

minimum mutsum2: 345.0

outcome with min mutsum is same outcome as min mutsum2 True

minimum levels: 17 deep

minimum level found on average in solution: 1

start cost:22.016666666666666

runtime: 301.72002935409546 sec

mutationtracker1: [167, 253, 15, 11, 48, 73, 9, 100, 53, 70, 105, 179, 86, 195, 191, 105, 136]

results run 96:

minimum mutsum: 125

minimum mutsum2: 704.5

outcome with min mutsum is same outcome as min mutsum2 False

minimum levels: 19 deep

minimum level found on average in solution: 3

start cost:23.2

runtime: 300.6540856361389 sec

mutationtracker1: [167, 253, 15, 11, 48, 73, 9, 100, 53, 70, 105, 179, 86, 195, 191, 105, 136]

results run 97:

minimum mutsum: 87

minimum mutsum2: 319.5

outcome with min mutsum is same outcome as min mutsum2 True

minimum levels: 15 deep

minimum level found on average in solution: 0

start cost:18.066666666666666

runtime: 300.32835268974304 sec

mutationtracker1: [167, 253, 15, 11, 48, 73, 9, 100, 53, 70, 105, 179, 86, 195, 191, 105, 136]

results run 98:

minimum mutsum: 107

minimum mutsum2: 723.5

outcome with min mutsum is same outcome as min mutsum2 True

minimum levels: 14 deep

minimum level found on average in solution: 0

start cost:19.05

runtime: 300.4038953781128 sec

mutationtracker1: [167, 253, 15, 11, 48, 73, 9, 100, 53, 70, 105, 179, 86, 195, 191, 105, 136]

results run 99:

minimum mutsum: 97

minimum mutsum2: 400.5

outcome with min mutsum is same outcome as min mutsum2 True

minimum levels: 17 deep

minimum level found on average in solution: 6

start cost:20.15

runtime: 303.11060070991516 sec