Python file: **XOs\_FPS**  (from Mariana parallel with original fitness)

Testing Crossovers

**Fixed:** fps swap\_mutation Pop=500 Gens=300

Running time aprox min

A graph of a number of different colored lines

Description automatically generated

Run #1, Generation #300: Best Fitness: 585, Time: 123.66 seconds

Run #1, Generation #300: Best Fitness: 573, Time: 123.76 seconds

Run #1, Generation #300: Best Fitness: 614, Time: 149.01 seconds

Run #1, Generation #300: Best Fitness: 691, Time: 178.37 seconds

Run #2, Generation #300: Best Fitness: 597, Time: 129.39 seconds

Run #2, Generation #300: Best Fitness: 517, Time: 129.45 seconds

Run #2, Generation #300: Best Fitness: 583, Time: 143.09 seconds

Run #2, Generation #300: Best Fitness: 691, Time: 173.92 seconds

Run #3, Generation #300: Best Fitness: 583, Time: 124.16 seconds

Run #3, Generation #300: Best Fitness: 582, Time: 124.73 seconds

Run #3, Generation #300: Best Fitness: 582, Time: 146.15 seconds

Run #4, Generation #300: Best Fitness: 560, Time: 127.0 seconds

Run #4, Generation #300: Best Fitness: 552, Time: 127.07 seconds

Run #3, Generation #300: Best Fitness: 683, Time: 176.95 seconds

Run #4, Generation #300: Best Fitness: 586, Time: 145.92 seconds

Run #5, Generation #300: Best Fitness: 525, Time: 123.86 seconds

Run #5, Generation #300: Best Fitness: 544, Time: 124.31 seconds

Run #4, Generation #300: Best Fitness: 677, Time: 171.74 seconds

Run #5, Generation #300: Best Fitness: 622, Time: 141.99 seconds

Run #6, Generation #300: Best Fitness: 544, Time: 122.25 seconds

Run #6, Generation #300: Best Fitness: 537, Time: 122.8 seconds

Run #6, Generation #300: Best Fitness: 575, Time: 141.76 seconds

Run #5, Generation #300: Best Fitness: 678, Time: 170.8 seconds

Run #7, Generation #300: Best Fitness: 563, Time: 121.89 seconds

Run #7, Generation #300: Best Fitness: 555, Time: 122.2 seconds

Run #8, Generation #300: Best Fitness: 571, Time: 122.23 seconds

Run #8, Generation #300: Best Fitness: 578, Time: 122.65 seconds

Run #7, Generation #300: Best Fitness: 606, Time: 141.88 seconds

Run #6, Generation #300: Best Fitness: 690, Time: 171.09 seconds

Run #9, Generation #300: Best Fitness: 597, Time: 122.42 seconds

Run #9, Generation #300: Best Fitness: 560, Time: 122.52 seconds

Run #8, Generation #300: Best Fitness: 568, Time: 141.77 seconds

Run #7, Generation #300: Best Fitness: 674, Time: 170.15 seconds

Run #10, Generation #300: Best Fitness: 568, Time: 121.54 seconds

Run #10, Generation #300: Best Fitness: 572, Time: 121.94 seconds

Run #9, Generation #300: Best Fitness: 543, Time: 141.68 seconds

Run #8, Generation #300: Best Fitness: 694, Time: 170.53 seconds

Run #10, Generation #300: Best Fitness: 543, Time: 142.37 seconds

Run #1, Generation #300: Best Fitness: 684, Time: 202.08 seconds

Run #1, Generation #300: Best Fitness: 790, Time: 211.87 seconds

Run #9, Generation #300: Best Fitness: 691, Time: 169.9 seconds

Run #2, Generation #300: Best Fitness: 683, Time: 201.55 seconds

Run #1, Generation #300: Best Fitness: 488, Time: 217.96 seconds

Run #2, Generation #300: Best Fitness: 857, Time: 210.74 seconds

Run #10, Generation #300: Best Fitness: 679, Time: 169.77 seconds

Run #3, Generation #300: Best Fitness: 680, Time: 184.34 seconds

Run #2, Generation #300: Best Fitness: **467**, Time: 198.57 seconds

Run #3, Generation #300: Best Fitness: 818, Time: 190.3 seconds

Run #4, Generation #300: Best Fitness: 675, Time: 171.66 seconds

Run #4, Generation #300: Best Fitness: 798, Time: 179.28 seconds

Run #3, Generation #300: Best Fitness: 493, Time: 187.34 seconds

Run #5, Generation #300: Best Fitness: 688, Time: 170.36 seconds

Run #5, Generation #300: Best Fitness: 833, Time: 179.03 seconds

Run #4, Generation #300: Best Fitness: 478, Time: 187.48 seconds

Run #6, Generation #300: Best Fitness: 676, Time: 171.41 seconds

Run #6, Generation #300: Best Fitness: 821, Time: 179.68 seconds

Run #5, Generation #300: Best Fitness: 498, Time: 187.87 seconds

Run #7, Generation #300: Best Fitness: 680, Time: 172.51 seconds

Run #7, Generation #300: Best Fitness: 812, Time: 181.19 seconds

Run #6, Generation #300: Best Fitness: 496, Time: 190.78 seconds

Run #8, Generation #300: Best Fitness: 678, Time: 172.13 seconds

Run #8, Generation #300: Best Fitness: 841, Time: 179.24 seconds

Run #7, Generation #300: Best Fitness: 484, Time: 187.81 seconds

Run #9, Generation #300: Best Fitness: 659, Time: 171.28 seconds

Run #9, Generation #300: Best Fitness: 802, Time: 179.64 seconds

Run #8, Generation #300: Best Fitness: 476, Time: 187.6 seconds

Run #10, Generation #300: Best Fitness: 685, Time: 171.37 seconds

Run #10, Generation #300: Best Fitness: 859, Time: 187.64 seconds

Run #9, Generation #300: Best Fitness: 480, Time: 209.99 seconds

Run #10, Generation #300: Best Fitness: 495, Time: 236.42 seconds