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Fitnessg Sharing Algorithm

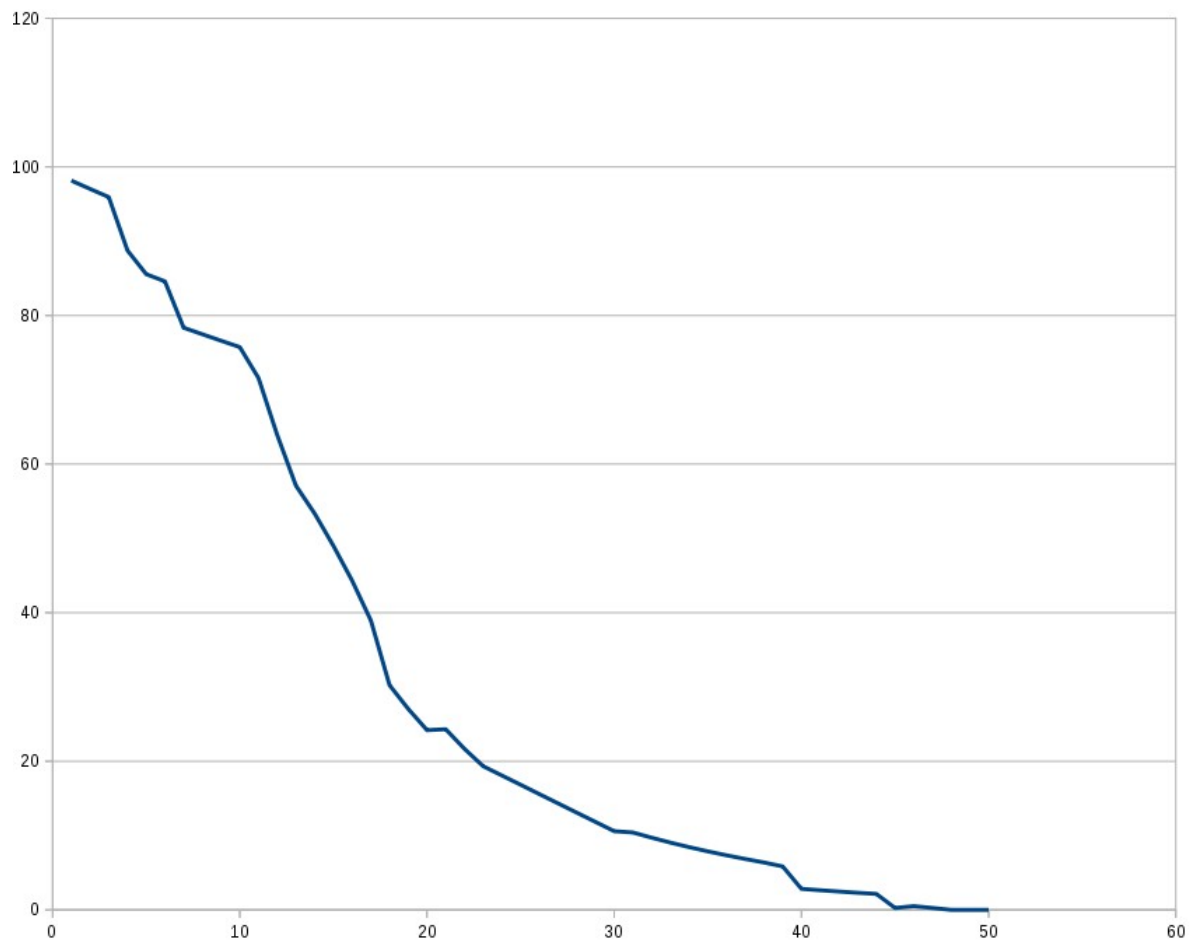
Start ga values:

Size of chromosome	Size of population	Epoch	Mutation	Crossover	Selection
1000	20	50	0.001	One point	Truncate

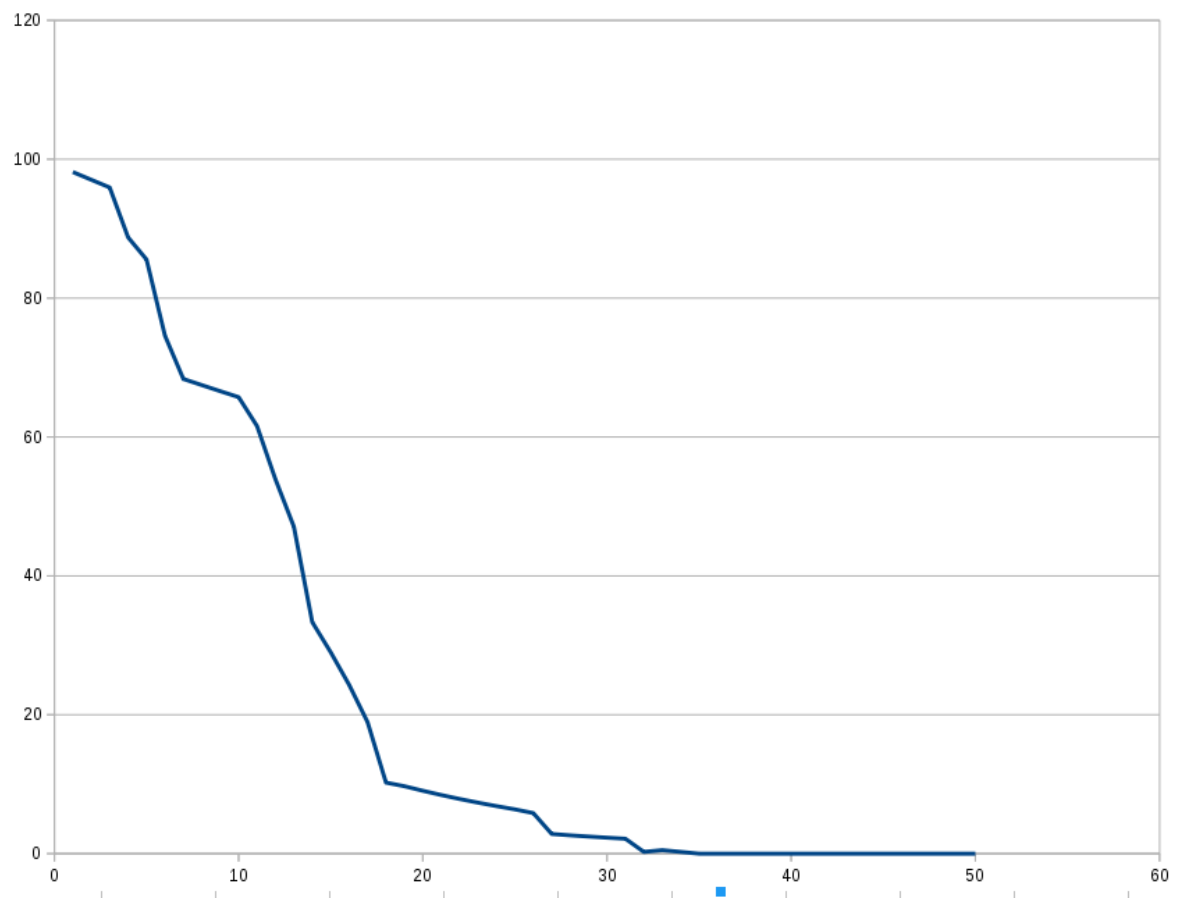
X - generation

Y - Fitness then less, then better

Fitness



Shared fitness:



Start (the best 8)

Population	Location	Original fitness	Shared fitness
1	94 : 449	396	396
2	671 : 226	493	493
3	23 : 382	242	242
4	370 : 623	123	123
5	727 : 130	352	352
6	653 : 322	425	425
7	304 : 559	643	643
8	379 : 607	90	90

Medium (the best 8)

Population	Location	Original fitness	Shared fitness
1	379 : 607	50	60
2	904 : 854	144	144
3	9 : 835	113	111

4	617 : 270	125	130
5	741 : 713	21	21
6	741 : 713	111	132
7	741 : 713	121	113
8	36 : 736	101	131

Last (the best 8)

Population	Location	Original fitness	Shared fitness
1	200:200	0	0
2	237 : 375	132	110
3	438 : 473	46	36
4	322 : 223	242	250
5	800:800	0	0
6	40 : 959	92	105
7	130 : 823	452	430
8	355 : 197	24	30

Best route:

231421141213222121332241344331323122231333213432214243411121211243
312431212112324241414232441231412434222133141342213444312121211313
433231311124244133331412322312231411134132211412232231323423414434
12324333312242344332123431443442232223342133431112231124133213412
231213322111433342133123223313213134434212241232443142431111424211
334242112231434222113444433332314321333212314422431124344123122341
144331342232322343211411113422241242133143213113232134341231222134
224234314113324432142412144343212214321422211413412424214322432222
441213433142132241312211112433311224331211234111111231311222244442
214412341331422244443114422424441421123233134133412143234334432432
431333233241342441311321134223423142134133443143234131211321441414
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334213133111222314324242434232444433234123321343323314144442244244
223431212243412112314334313212331242331333412311132221322131134144
334332414213124433241231414413222111243341233144134214424132441441
2143211441

Where: 1 - left / 2 - right / 3 - top / 4 - bottom

Conclusion: with fitness sharing is possible to achieve multiple aims using genetic algorithm.