

Iterated Prisoner's Dilemma

Number of genes – 64

Population size – 50

Number of games - 10

Rules:

A	B	A	B
1	0	5	0
1	1	2	2
0	0	3	3
0	1	0	5

Generation	Average fitness function	Best fitness function
1	4.102	5
2	4.492	5
3	5.02	6
4	5.195	6
5	5.41	6
6	5.762	6
7	6.25	7
8	6.543	7
9	6.914	7
10	7.129	7
11	7.266	7
12	7.441	8
13	7.598	8
14	7.813	8
15	7.988	8
16	8.281	9
17	8.398	9
18	8.633	10
19	9.082	10
20	9.395	10

1st iteration:

Genes of best chromosome: 1 0 0 0 0 1 1 0

```

Best: 1 0 0 0 0 0 1 1 0 27
Random: 0 1 0 0 0 0 0 0 1 22
Best: 1 0 0 0 0 0 1 1 0 17
Random: 1 0 1 1 1 1 0 0 0 27
Best: 1 0 0 0 0 0 1 1 0 23
Random: 0 1 0 0 1 0 0 1 0 23
Best: 1 0 0 0 0 0 1 1 0 26
Random: 0 0 0 0 0 0 0 1 1 21
Best: 1 0 0 0 0 0 1 1 0 12
Random: 1 1 1 1 0 0 1 1 0 27
Best: 1 0 0 0 0 0 1 1 0 16
Random: 1 1 0 0 1 0 1 0 1 26
Best: 1 0 0 0 0 0 1 1 0 24
Random: 0 1 1 1 0 0 0 0 0 24
Best: 1 0 0 0 0 0 1 1 0 26
Random: 0 0 0 0 1 0 1 0 0 21
Best: 1 0 0 0 0 0 1 1 0 20
Random: 0 0 1 0 1 0 0 1 1 25
Best: 1 0 0 0 0 0 1 1 0 13
Random: 1 1 1 0 1 0 0 1 1 28

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6th iteration:

Genes of best chromosome: 1 0 0 0 0 1 1 0

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Random: 1 0 0 0 0 0 1 1 0 16
Best: 0 1 1 0 1 0 1 1 0 26
Random: 1 0 0 0 0 0 1 1 0 20
Best: 0 1 0 1 0 0 0 1 1 25
Random: 1 0 0 0 0 0 1 1 0 10
Best: 1 1 1 0 1 1 1 0 1 30
Random: 1 0 0 0 0 0 1 1 0 23
Best: 1 1 1 0 0 0 0 0 0 23
Random: 1 0 0 0 0 0 1 1 0 26
Best: 1 0 0 0 0 0 0 0 1 21
Random: 1 0 0 0 0 0 1 1 0 22
Best: 1 0 1 0 0 0 0 1 0 22
Random: 1 0 0 0 0 0 1 1 0 14
Best: 1 1 1 0 1 1 0 0 1 29
Random: 1 0 0 0 0 0 1 1 0 13
Best: 1 1 1 1 0 1 0 1 0 28
Random: 1 0 0 0 0 0 1 1 0 22
Best: 1 1 0 0 0 0 1 0 0 22
Random: 1 0 0 0 0 0 1 1 0 23
Best: 0 0 0 1 0 1 0 1 0 23

```

20th iteration:

Genes of best chromosome: 0 0 1 1 1 0 0 1 0

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Random: 0 0 1 1 1 0 0 1 0 10
Best: 1 0 1 1 1 0 1 1 1 25
Random: 0 0 1 1 1 0 0 1 0 11
Best: 0 1 1 1 0 1 1 1 1 26
Random: 0 0 1 1 1 0 0 1 0 17
Best: 0 0 1 1 1 1 0 0 1 22
Random: 0 0 1 1 1 0 0 1 0 17
Best: 0 1 1 0 1 1 0 1 0 22
Random: 0 0 1 1 1 0 0 1 0 7
Best: 1 1 1 1 1 0 1 1 1 27
Random: 0 0 1 1 1 0 0 1 0 13
Best: 0 1 1 1 1 0 1 1 0 23
Random: 0 0 1 1 1 0 0 1 0 19
Best: 1 1 1 0 0 1 0 0 1 24
Random: 0 0 1 1 1 0 0 1 0 15
Best: 1 1 1 0 0 1 0 1 1 25
Random: 0 0 1 1 1 0 0 1 0 28
Best: 0 0 1 0 0 1 0 0 0 18
Random: 0 0 1 1 1 0 0 1 0 14
Best: 0 1 0 1 1 1 0 1 1 24

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