

Name: Sergey Peshko (Сергей Пешко)

Chromosomes: 20

Genes: 10

Epoch: 50

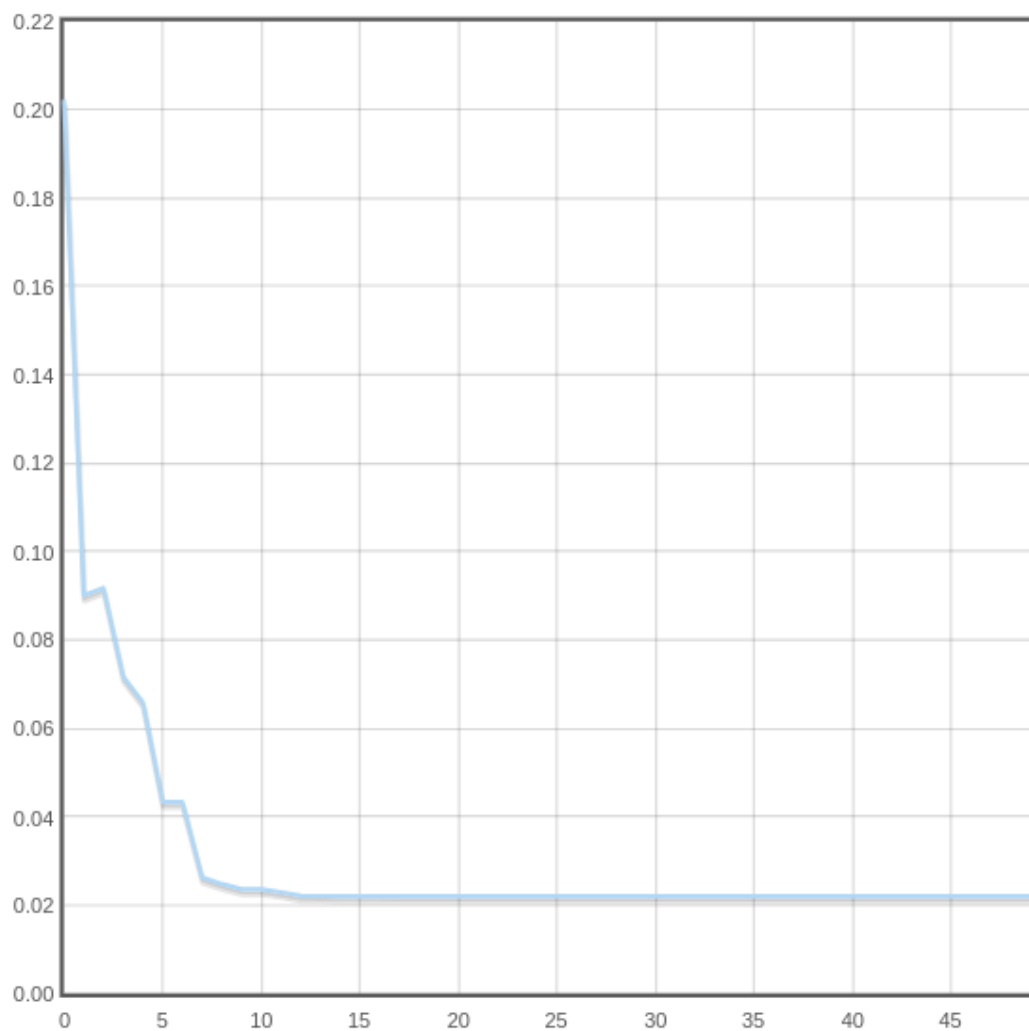
With mutation

Onepoint crossover

Evolution:

X - Epoch

Y - Sum of  $y_1(x)$  and  $y_2(x)$ , where 'x' the best chromosome.



**Table for initial population:**

| x          | y1          | y2          | dominate by | dominate | rank |
|------------|-------------|-------------|-------------|----------|------|
| 10011      | 0.14550053  | 0.33807865  | 18          | 0        | 19   |
| 1111100111 | 0.3312992   | 0.1410648   | 18          | 1        | 18   |
| 1111100101 | 0.3290546   | 0.13960148  | 17          | 1        | 18   |
| 1000101    | 0.11063419  | 0.28368106  | 16          | 2        | 17   |
| 1100010    | 0.09259659  | 0.25431535  | 15          | 3        | 16   |
| 1111010    | 0.07888199  | 0.23122574  | 14          | 4        | 15   |
| 11001110   | 0.039532624 | 0.15906388  | 13          | 5        | 14   |
| 11010111   | 0.036114845 | 0.15213047  | 12          | 6        | 13   |
| 11110000   | 0.02743164  | 0.13368164  | 11          | 7        | 12   |
| 1011110111 | 0.1164249   | 0.019940529 | 10          | 8        | 11   |
| 100100001  | 0.013870583 | 0.100979954 | 9           | 9        | 10   |
| 1011000110 | 0.08605972  | 0.008715973 | 8           | 10       | 9    |
| 101000010  | 0.007318268 | 0.081537016 | 7           | 11       | 8    |
| 1010110100 | 0.076055296 | 0.005742798 | 6           | 12       | 7    |
| 1010110000 | 0.07391602  | 0.005166016 | 5           | 13       | 6    |
| 1010101011 | 0.07128483  | 0.004487953 | 4           | 14       | 5    |
| 101011100  | 0.003618775 | 0.067681275 | 3           | 15       | 4    |
| 1010001100 | 0.05603577  | 0.001348267 | 2           | 16       | 3    |
| 110101000  | 1.98E-04    | 0.034572754 | 1           | 17       | 2    |
| 1000000111 | 0.011413918 | 0.008679543 | 0           | 18       | 1    |

**Table for middle population:**

| x          | y1          | y2          | dominate by | dominate | rank |
|------------|-------------|-------------|-------------|----------|------|
| 1000011111 | 0.016971169 | 0.004861794 | 17          | 0        | 3    |
| 1000011111 | 0.016971169 | 0.004861794 | 17          | 0        | 3    |
| 1000011111 | 0.016971169 | 0.004861794 | 17          | 0        | 3    |
| 1000001010 | 0.012048492 | 0.008142242 | 16          | 3        | 2    |
| 1000001001 | 0.01183506  | 0.008319435 | 0           | 4        | 1    |
| 1000001001 | 0.01183506  | 0.008319435 | 0           | 4        | 1    |
| 1000001001 | 0.01183506  | 0.008319435 | 0           | 4        | 1    |
| 1000001001 | 0.01183506  | 0.008319435 | 0           | 4        | 1    |
| 1000001001 | 0.01183506  | 0.008319435 | 0           | 4        | 1    |
| 1000001001 | 0.01183506  | 0.008319435 | 0           | 4        | 1    |
| 1000001001 | 0.01183506  | 0.008319435 | 0           | 4        | 1    |
| 1000001001 | 0.01183506  | 0.008319435 | 0           | 4        | 1    |
| 1000001001 | 0.01183506  | 0.008319435 | 0           | 4        | 1    |
| 1000001001 | 0.01183506  | 0.008319435 | 0           | 4        | 1    |
| 1000001001 | 0.01183506  | 0.008319435 | 0           | 4        | 1    |
| 1000001001 | 0.01183506  | 0.008319435 | 0           | 4        | 1    |
| 1000001001 | 0.01183506  | 0.008319435 | 0           | 4        | 1    |
| 1000001001 | 0.01183506  | 0.008319435 | 0           | 4        | 1    |
| 1000001001 | 0.01183506  | 0.008319435 | 0           | 4        | 1    |
| 1000001001 | 0.01183506  | 0.008319435 | 0           | 4        | 1    |
| 1000001001 | 0.01183506  | 0.008319435 | 0           | 4        | 1    |

**Table for finish population:**



