Global Intermediary Recombination

Operator

Real

Gevol.evolution.evoperator.real

Description

New individual has genes equal to average value of his parents. Every number of parents is allowed. This is important to select subpopulation to be used by this operator. Otherwise, new population will be equal to average of the old one and the algorithm will stuck.

Parameters

No parameters.

Pseudocode

```
For each gene in new chromosome
      g[i] = average for gene i for population
```

Implementation details

At the beginning it creates new chromosome with three lists (values, sigma, alpha). For each of them calculate average value on each gene.

```
//to get average first summarize all values
for(int k = 1; k < population.Count; k++)
{
       for(int i = 0; i < svLength; i++)
       {
              newChromosome.Sigma[i] +=
((RealIndividualChromosome)population[k].Chromosome).Sigma[i];
              newChromosome.Values[i] +=
((RealIndividualChromosome)population[k].Chromosome).Values[i];
       }
       for (int i = 0; i < alphaLength; i++)
       {
              newChromosome.Alpha[i] +=
((RealIndividualChromosome)population[k].Chromosome).Alpha[i];
       }
}
//divide sum by number of individuals
for (int i = 0; i < svLength; i++)
{
       newChromosome.Sigma[i] = newChromosome.Sigma[i] / population.Count;
       newChromosome.Values[i] = newChromosome.Values[i] / population.Count;
}
for (int i = 0; i < alphaLength; i++)
{
       newChromosome.Alpha[i] = newChromosome.Alpha[i] / population.Count;
}
```