- **Outline of the Basic Genetic Algorithm**

1. [Start] Generate random population of **n** chromosomes (i.e. suitable solutions for the problem).

2. [Fitness] Evaluate the fitness **f(x)** of each chromosome **x** in the population.

3. [New population] Create a new population by repeating following steps until the new population is complete.

   (a) [Selection] Select two parent chromosomes from a population according to their fitness (better the fitness, bigger the chance to be selected)

   (b) [Crossover] With a crossover probability, cross over the parents to form new offspring (children). If no crossover was performed, offspring is the exact copy of parents.

   (c) [Mutation] With a mutation probability, mutate new offspring at each locus (position in chromosome).

   (d) [Accepting] Place new offspring in the new population

4. [Replace] Use new generated population for a further run of the algorithm

5. [Test] If the end condition is satisfied, stop, and return the best solution in current population

6. [Loop] Go to step 2

Note : The genetic algorithm's performance is largely influenced by two operators called crossover and mutation. These two operators are the most important parts of GA.

- **Flow Chart for Genetic Programming**

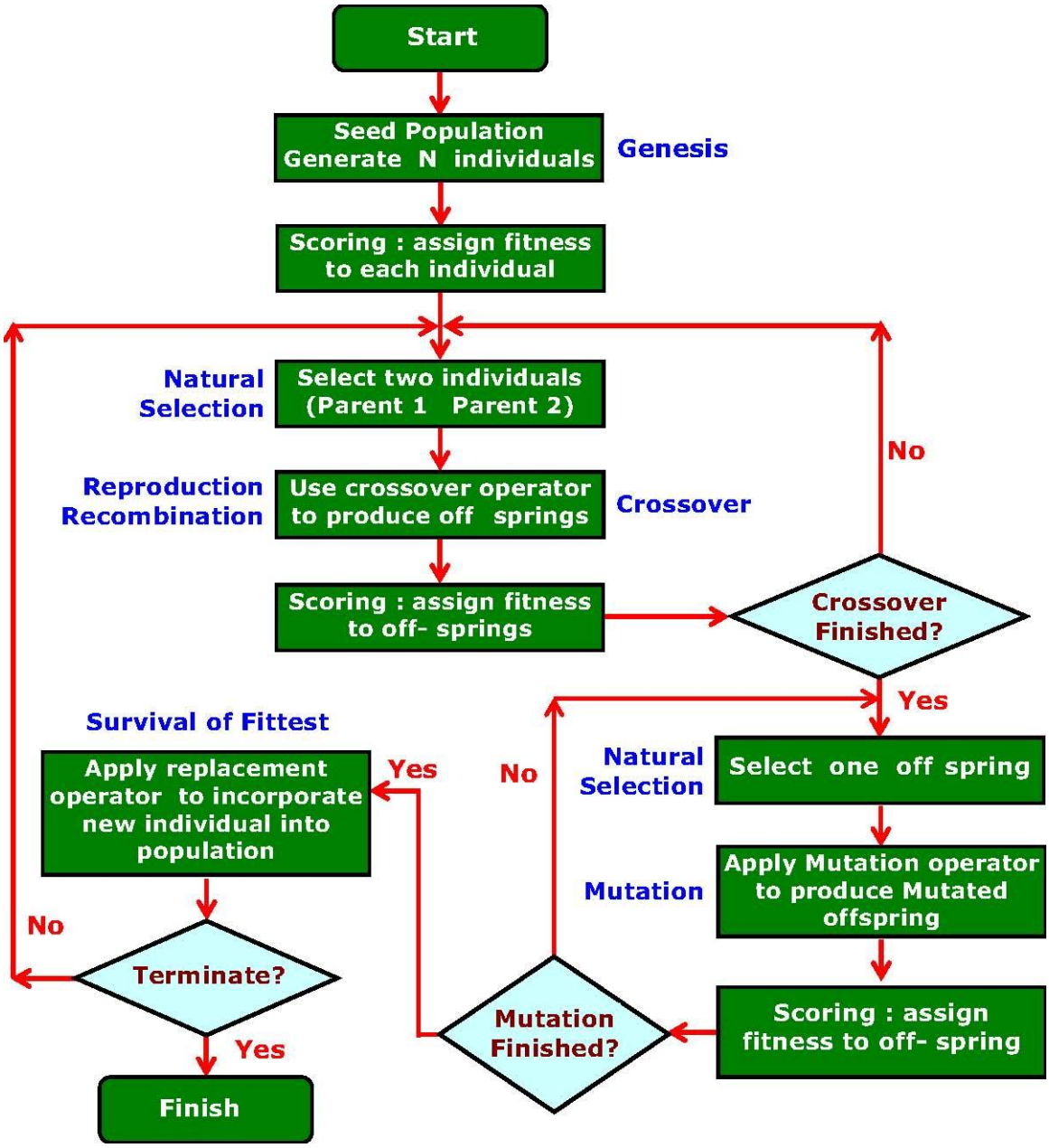

Fig. Genetic algorithm – program flow chart