What is Parent Selection?
(Mergining, Sorting and Selection)

Parent Selection:

The process that determines which solutions should be preserved and allowed to produce and which should die.The main purpose of the selector's tool is to emphasize good solutions and eliminate bad solutions from the population while maintaining a permanent population size.

“Selects the best, discards the rest”

Functions of Selection Parameter:

Find great solutions in the population.Make multiple copies of great solutions. Remove bad solutions from the population so that more copies of good solutions can be placed on the population.

Now how to identify the good solutions (great solutions)?

Fitness function:

A fitness value can be assigned to evaluate the solutions. A fitness function value measures the accuracy of the solution. Value is used to measure a particular solution against other solutions. A fitness value is assigned to each solution depends on how close it is actually to the great solution to the problem.

There are various ways to use selections in Genetic Algorithms.

1. **Tournament selection:** Tournament selection is a way of selecting a specific parent from a specific population in a genetic algorithm. Tournament selection involves conducting several "competitions" between a few individuals (or "chromosomes") randomly selected from the population.
2. **Roulette wheel selection:** Roulette selection is a stochastic choice, in which the probability of a person’s choice is equal to his or her strength.The method is inspired by real-world roulettes but possesses important distinctions from them
3. **Rank selection:** The Rank Selection also deals with negative values and is most commonly used when parents have very close values of resilience.

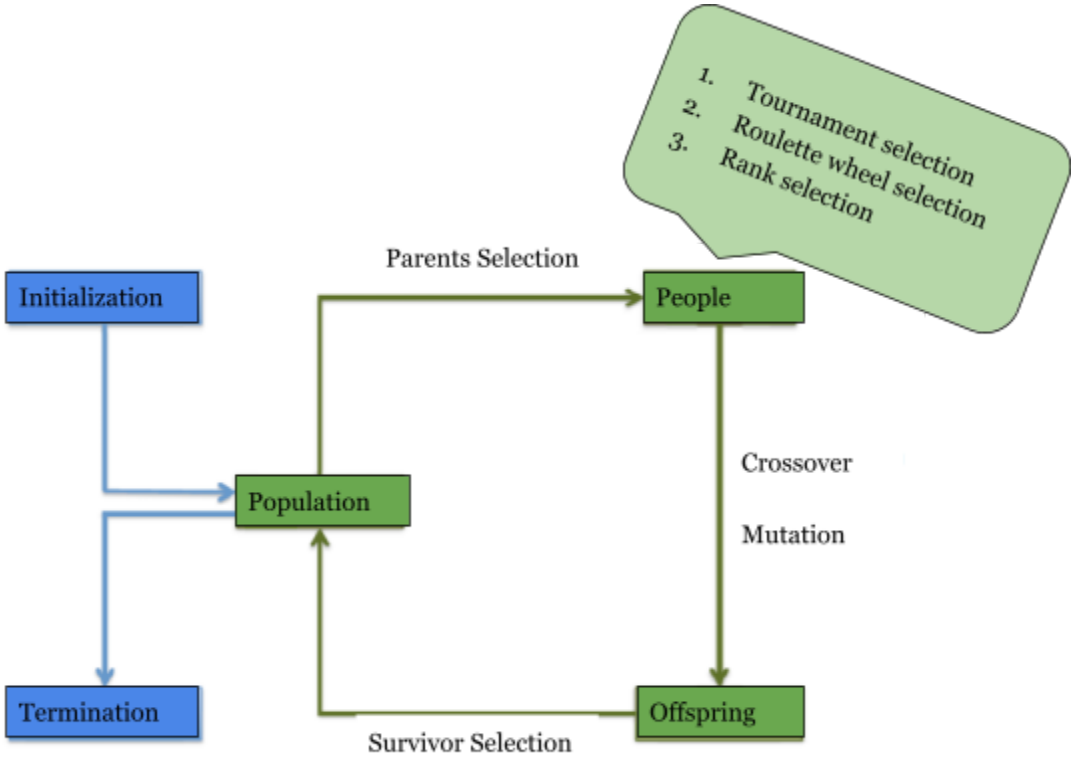

Fig. Parent Selection Process