Given a target string, the goal is to produce target string starting from a random string of the same length. In the implementation, following analogies are made –

* Characters A-Z, a-z and 0-9 are considered as genes
* A string generated by these character is considered as chromosome/solution/Individual

Target string to be generated: Arise awake and stop not

1) Randomly initialize population of size 100 using valid chromosome

2) Determine fitness of population:  fitness is the number of characters which matches from characters in target string at a particular index. So individuals with high fitness value are desirable.

3) Until convergence repeat:

a) Select parents from population: 10% of fittest population goes to the next generation

b) Generate new population: From 50% of population, Individuals will mate to produce offspring

*Mating rule:*

*Generate random probability*

*if prob is less than 0.45, insert gene from parent 1*

*if prob is between 0.45 and 0.90, insert gene from parent 2*

*else insert random gene(mutate) for maintaining diversity*