Generative Algorithm

Population: Given number or text sequence.

Fitness: How much the given is matched with the main one.

Ex: Make
Take   Fitness = 3 (ake)

Selection: Divide the given number by a random point.

Ex: abc | def   & 1234 | 56

Crossover: two parts interchange.

Ex: abc | de   to   abchi

efg | fi   to   efgde

Mutation: one bit changed randomly.

Ex: 100001 → 110001

Given:

C1: 101010

C2: 110011

C3: 100110

C4: 111000

Now:

C1: 101010 → 3(1's)

C2: 110011 → 4(1's)

C3: 100110 → 3(1's)

C4: 111000 → 3(1's)

Fitness value: 3+4+3+3 = 13

Persentage of Fitness value:

C1: 3/13 =23%

C2: 4/13 =31%

C3: 3/13 =23%

C4: 3/13 =23%

Population	Fitness	Selection	Crossover	Mutation
101010	3 23%	110 | 011	110010	110000
110011	4 31%	101 | 010	110011	111011
100110	4 31%	110 | 011	110110	110110
111000	3 23%	100 | 110	110011	100001