Mutation maintains diversity within the population

Psuedocode for genetic algorithm

```
START
    Generate the initial population
    compute fitness
    REPEAT
        Selection
        Crossover
        Mutation
        Compute fitness
    UNTIL population has converged

STOP
```

Different Crossover Algorithms

Simple crossover: (Similar to binary crossover)

$P1 = [8 \quad 6 \quad 3 \quad 7 \quad 6]$

$P2 = [2 \quad 9 \quad 4 \quad 8 \quad 9]$

After crossover

$C1 = [8 \quad 6 \quad 4 \quad 8 \quad 9]$

$C2 = [2 \quad 9 \quad 3 \quad 7 \quad 6]$

Linear Crossover:

Algorithm: