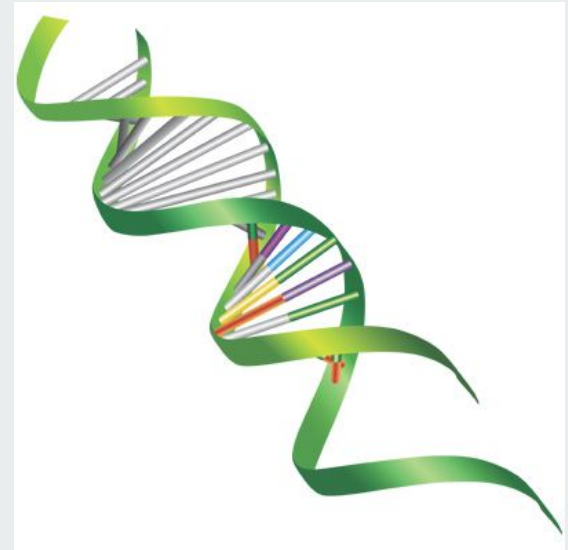
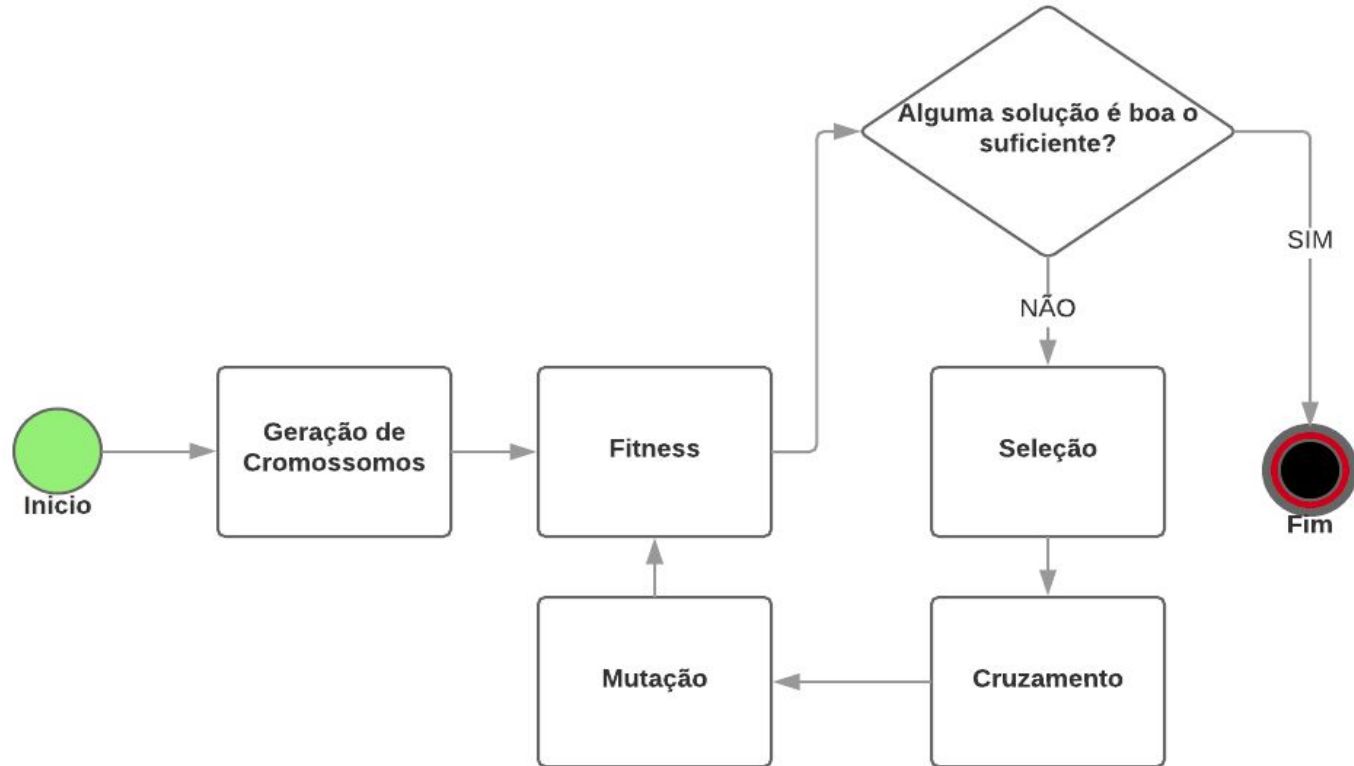

Métodos de Aproximação: Algoritmo Genético

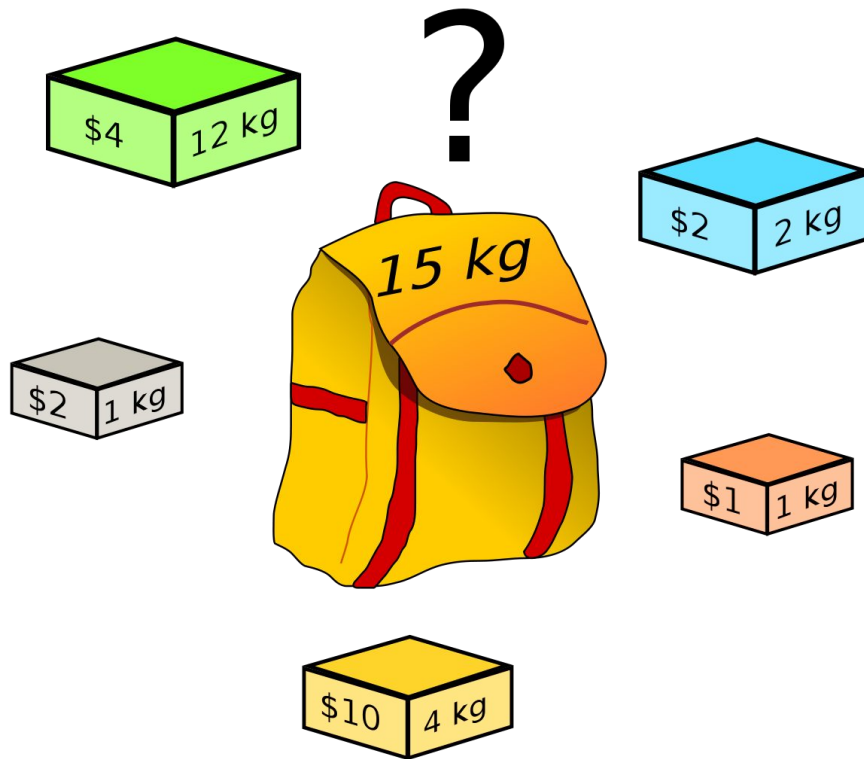
Alunos: Renan Cunha e João Almeida



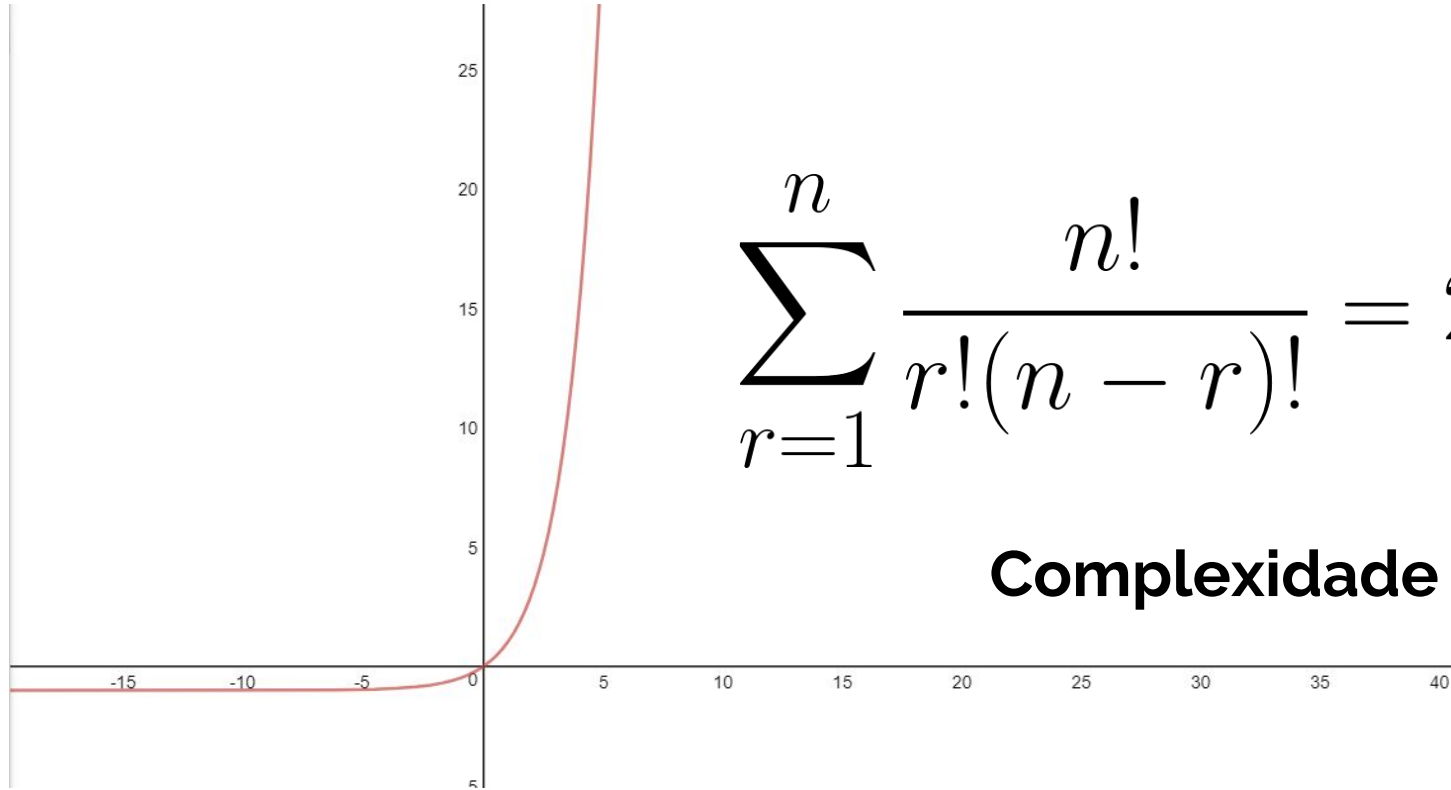
Fluxograma do Algoritmo



Problema da Mochila



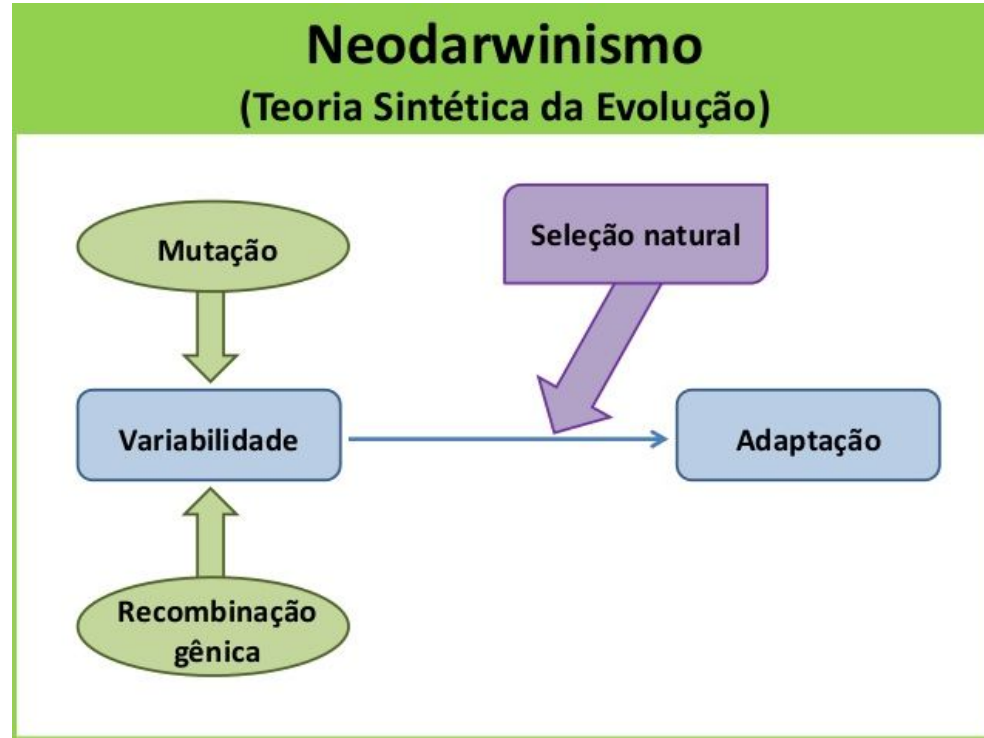
Abordagem 1: Força bruta



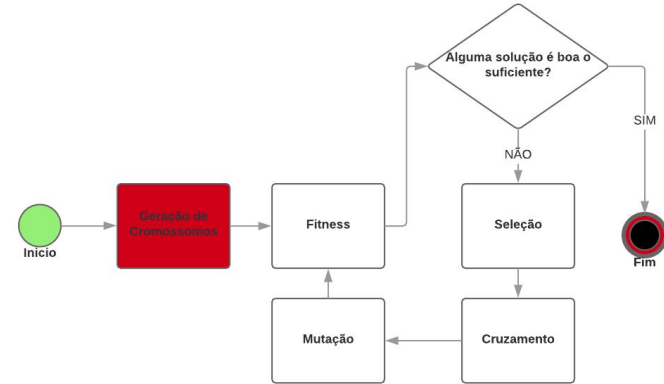
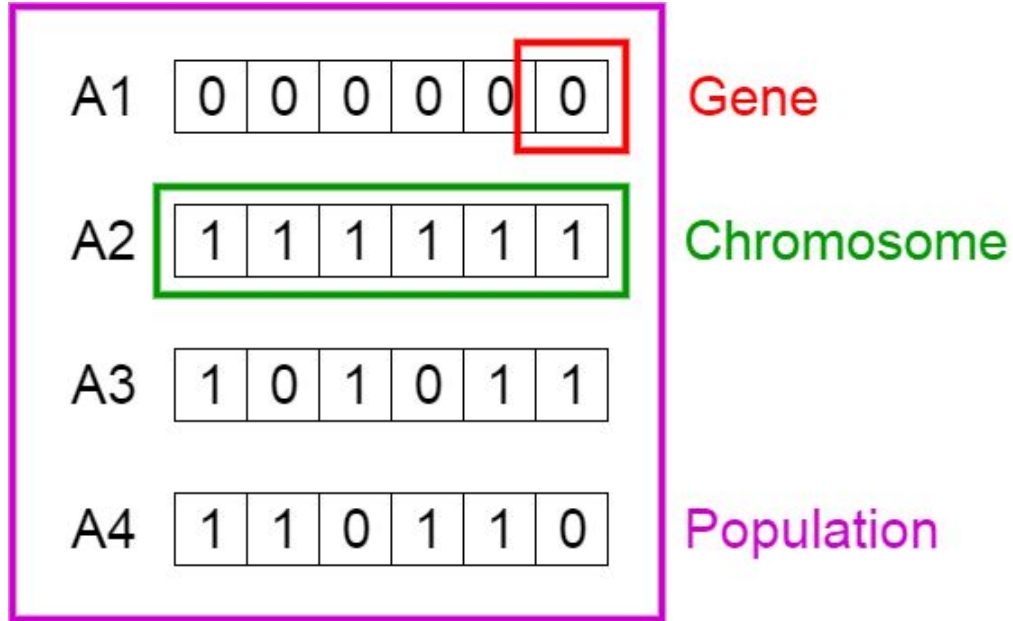
$$\sum_{r=1}^n \frac{n!}{r!(n-r)!} = 2^n - 1$$

Complexidade esperada

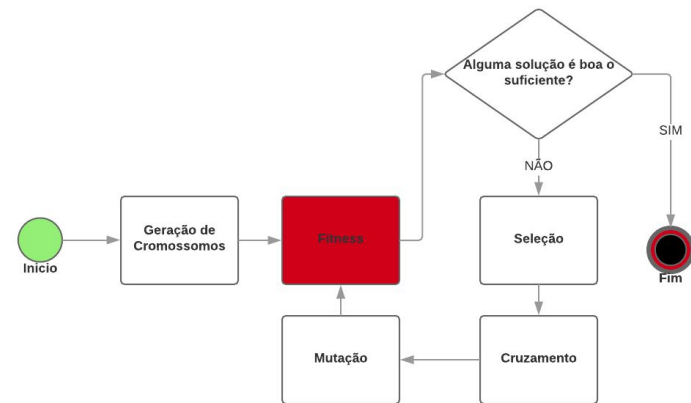
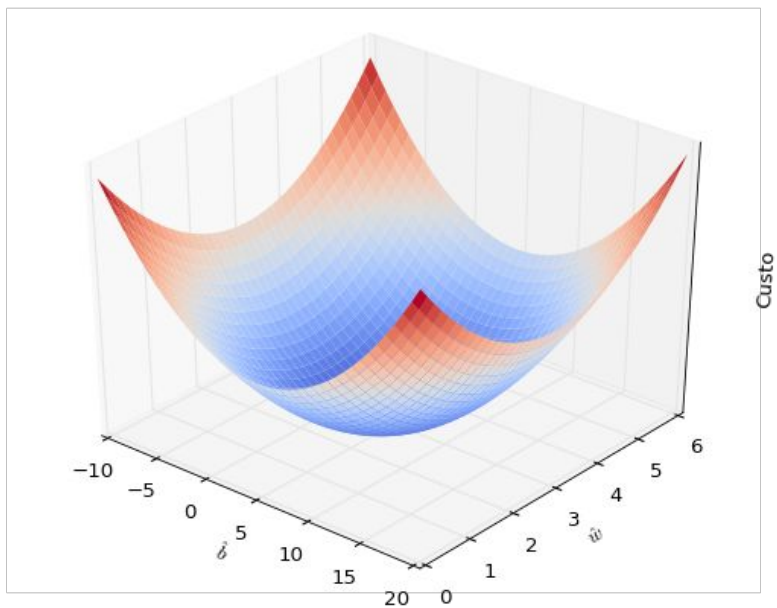
Inspiração para o algoritmo



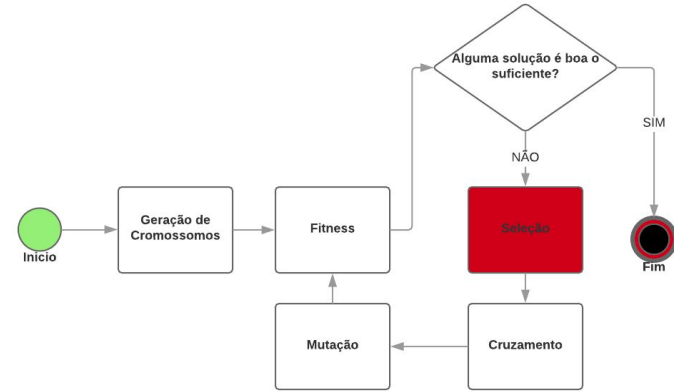
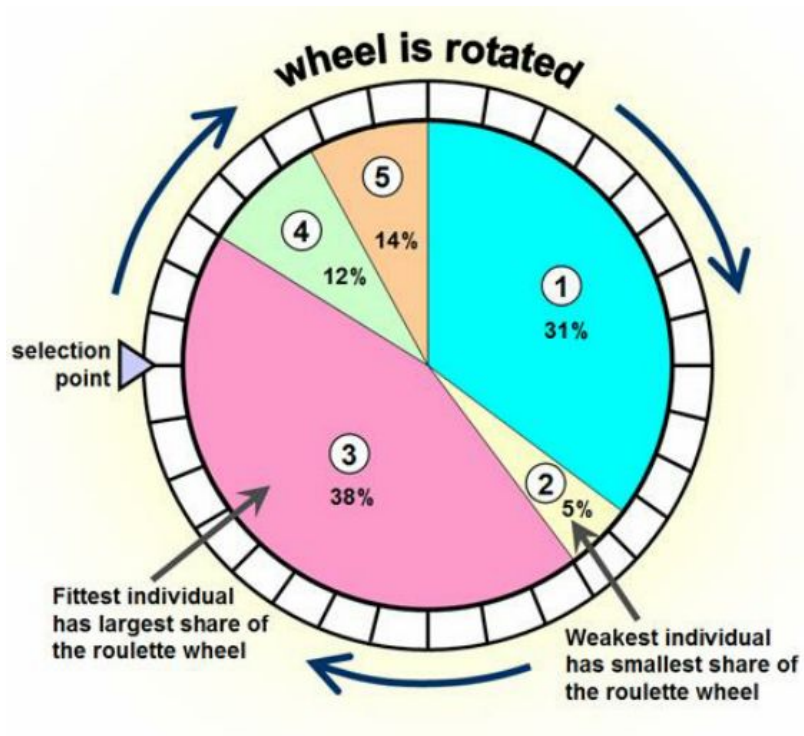
Geração de Cromossomos



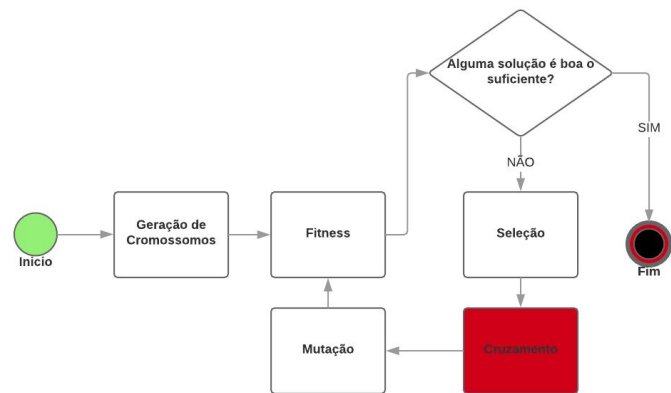
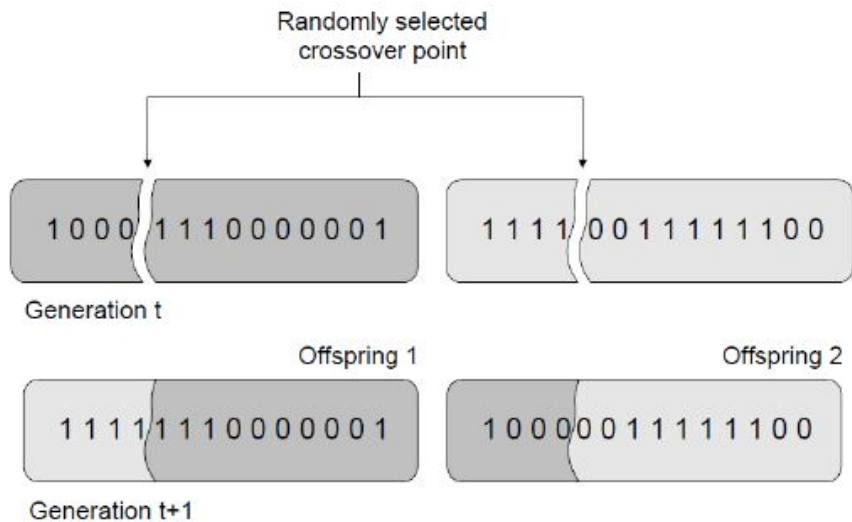
Fitness



Seleção



Cruzamento



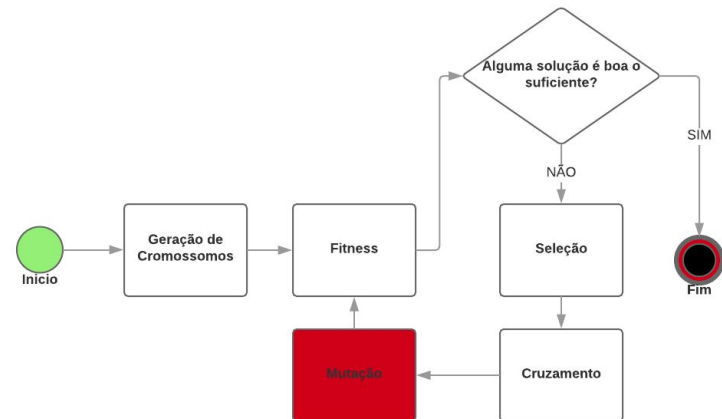
Mutação

Before Mutation

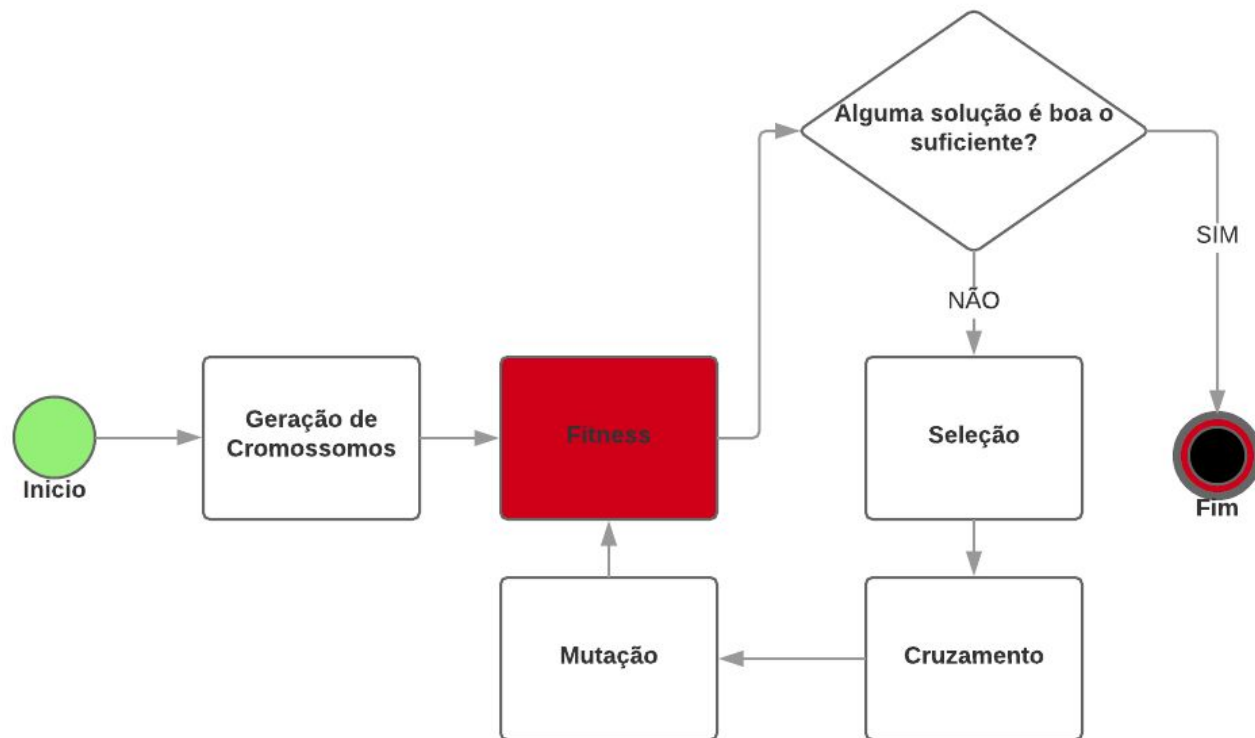
A5	1	1	1	0	0	0
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After Mutation

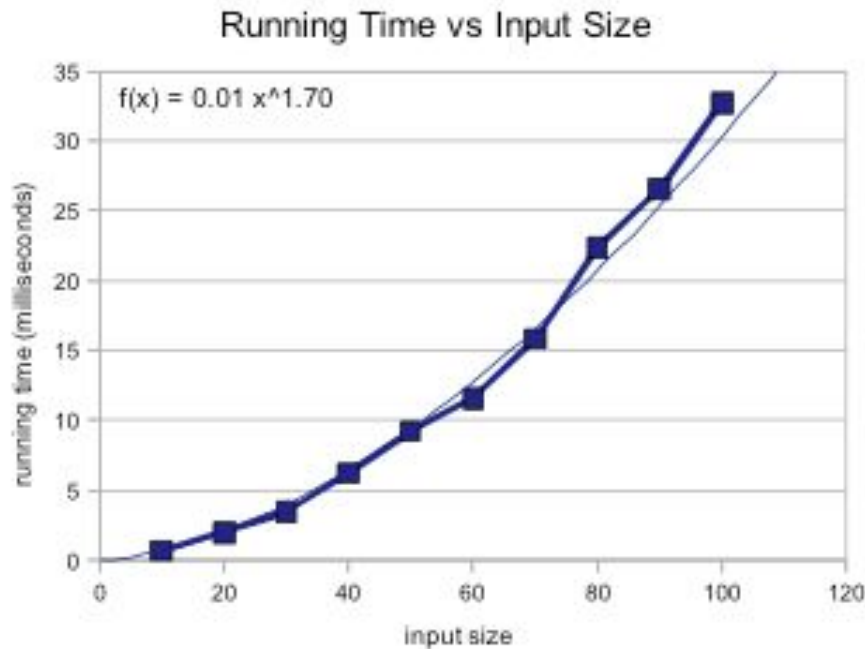
A5	1	1	0	1	1	0
----	---	---	---	---	---	---



Loop



Complexidade por Algoritmo genético



$$O(n^2)$$

Demonstração

