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create initial population ( $\mathcal{P}_c$ )
fitness_calculation ( $\mathcal{P}_c$ )
 $p_{best} = \text{best\_individual} (\mathcal{P}_c)$ 
for  $generation = 1$  until  $max\_generation$ 
     $\mathcal{P}_n = \emptyset$ 
    for  $offspring = 1$  until  $max\_descendant$ 
         $p_\alpha = \text{selection} (\mathcal{P}_c)$ 
         $p_\beta = \text{selection} (\mathcal{P}_c)$ 
         $\mathcal{P}_n = \mathcal{P}_n \cup \text{crossover} (p_\alpha, p_\beta)$ 
    endfor
    fitness_calculation ( $\mathcal{P}_n$ )
     $\mathcal{P}_c = \text{reduction} (\mathcal{P}_c \cup \mathcal{P}_n)$ 
     $p_{best} = \text{best\_individual} (p_{best} \cup \mathcal{P}_c)$ 
    mutation ( $\mathcal{P}_c$ )
    fitness_calculation ( $\mathcal{P}_c$ )
endfor
optimize ( $p_{best}$ )

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