

SIMULATED ANNEALING

Date ___/___/___
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```
function simulated_annealing()
    current ← randomly generated initial state
    current_cost ← cost(current) # conflicts
    T ← a large positive value
    while T > 0 and current_cost > 0
        neighbour ← generated_neighbour(current)
        neighbour_cost = cost(neighbour)
        if neighbour_cost < current_cost:
            current = neighbour
            current_cost = neighbour_cost
        T = T - 1
    return current, current_cost
```

Function: cost

```
def cost(state):
```

```
    conflicts = 0
```

```
    N = len(state)
```

```
    for i in range(N):
```

```
        for j in range(i+1, N):
```

```
            if state[i] == state[j]:
```

```
                conflicts += 1
```

```
    return conflicts
```