

# Example: Applying EC to the TSP Problem

- **Given:**  $n$  cities including the cost of getting from one city to the other city
- **TSP-Problem:** Find a cheapest path that visits every city exactly once
- Cost Matrix for Symmetric-5City-TSP-Problem:

5 9 3 1

2 4 6

3 2

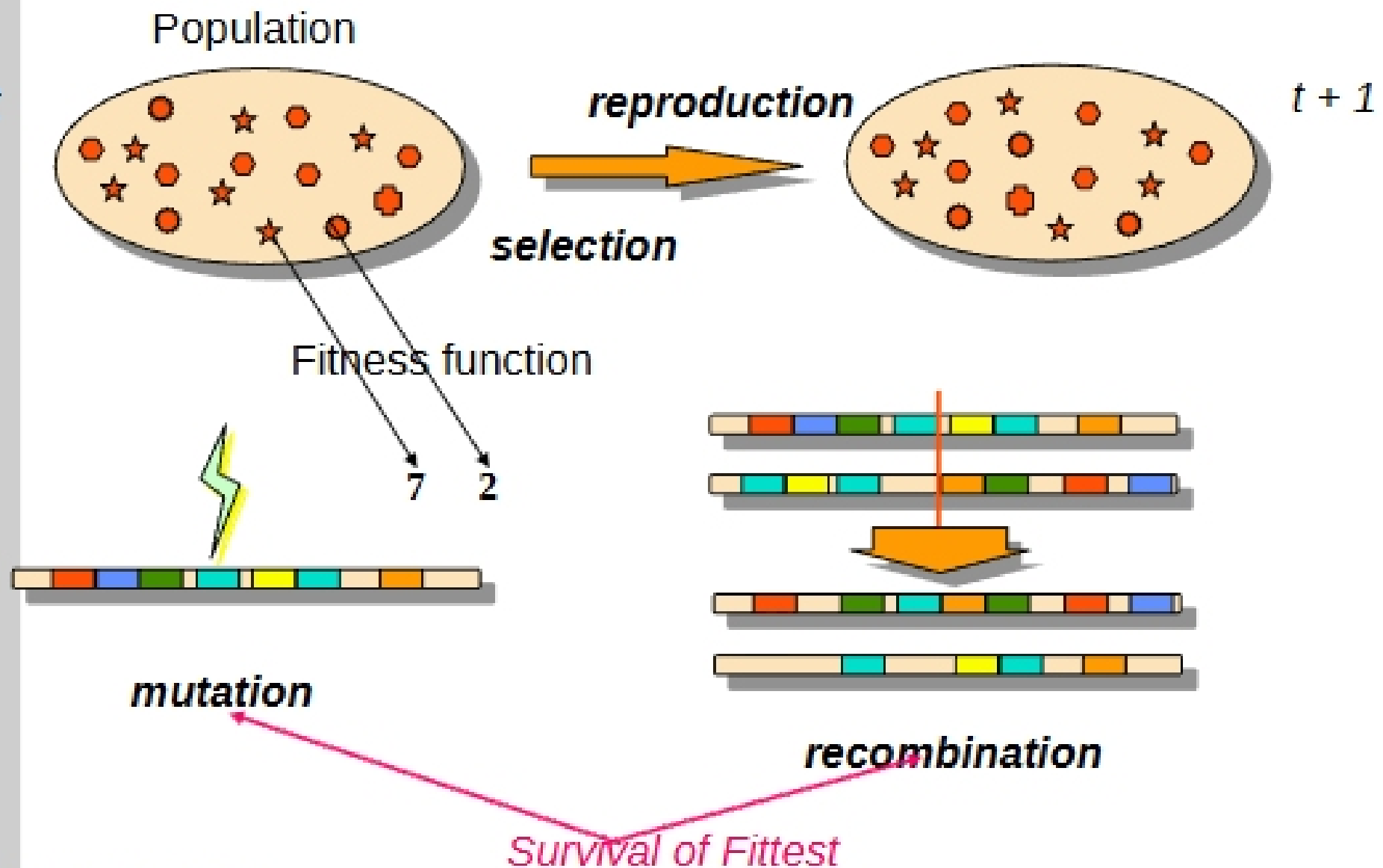
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**Solution1:** 1-2-3-4-5 cost:  $5+2+3+8+1=19$

**Solution2:** 1-3-5-4-2 cost:  $9+2+8+4+5=26$

**Goal:** Find the solution with the lowest cost (NP-hard)

# The Ingredients



# The Evolutionary Cycle

