

```
def crossover(parent1, parent2, crossover_rate):
    if random.random() < crossover_rate:
        crossover_point = random.randint(1, len(parent1) - 1)
        return parent1[:crossover_point] + parent2[crossover_point:], parent2[:crossover_point] + parent1[crossover_point:]
    return parent1, parent2
```