**Dynamic Programming**

**Longest Palindromic Substring** (**5**)

1. **Problem**: Given string, return the longest palindromic substring;
2. **Solution**: Multiple methods:
   1. Dynamic Programming, with Time O(n^2) and Space O(n^2);
   2. Spread From Center, with Time O(n^2) and Space O(1);
   3. Sliding Window, with Time O(n^2) and Space O(1);
   4. Manacher Algorithm, with Time O(n) and Space O(n).