

- How to break the problem down into smaller  $q$ ?
  - In other words, how to build from base cases to bigger problem?
- After figuring out the recursive relation, think about memoization

• from a substring  $i \rightarrow j$

$$S[i, j] = S[i, i] = S[j, j] \quad \&\& \quad dp[i+1][j-1]$$

the current condition
the previous condition (smaller problem)

1. base case:

- all the single len is a pal
- add all the 2 len palindromes

2. recursive

- the range of potential pal is  $1 - \text{length}$
- so we have to iterate through all the possible len of the palindrome

- Instead of iterating over each potential length, we start from the middle.