ALGORITHM

**STEP 1**: First, convert the input word to a character array using the **toCharArray()** method.

**STEP 2:** Initialize two pointers, **start** and **end**, to the beginning and end of the character array, respectively.

**STEP 3**: Iterate through the character array, comparing the characters at the **start** and **end** pointers. If they are not equal, the word is not a palindrome.

**STEP 4**: If the characters at the **start** and **end** pointers are equal, swap them using a temporary variable and move the **start** pointer to the right and the **end** pointer to the left.

**STEP 5**: Repeat steps 3 and 4 until the **start** pointer is greater than or equal to the **end** pointer.

**STEP 6**: If the loop completes without finding any unequal characters, the word is a palindrome.