# Problem 72: Edit Distance

## Problem Information

**Difficulty:** Medium
**Acceptance Rate:** 59.70%
**Paid Only:** No
**Tags:** String, Dynamic Programming

## Problem Description

Given two strings `word1` and `word2`, return _the minimum number of operations required to convert`word1` to `word2`_.

You have the following three operations permitted on a word:

* Insert a character * Delete a character * Replace a character

**Example 1:**

**Input:** word1 = "horse", word2 = "ros" **Output:** 3 **Explanation:** horse -> rorse (replace 'h' with 'r') rorse -> rose (remove 'r') rose -> ros (remove 'e')

**Example 2:**

**Input:** word1 = "intention", word2 = "execution" **Output:** 5 **Explanation:** intention -> inention (remove 't') inention -> enention (replace 'i' with 'e') enention -> exention (replace 'n' with 'x') exention -> exection (replace 'n' with 'c') exection -> execution (insert 'u')

**Constraints:**

* `0 <= word1.length, word2.length <= 500` * `word1` and `word2` consist of lowercase English letters.

## Code Snippets

**C++:**

```
class Solution {
public:
int minDistance(string word1, string word2) {

}
};
```

**Java:**

```
class Solution {
public int minDistance(String word1, String word2) {

}
}
```

**Python3:**

```
class Solution:
def minDistance(self, word1: str, word2: str) -> int:
```