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Write a function that takes a string and reverses the letters in place.↗

## Breakdown

In general, an in-place algorithm will require swapping elements.

## Solution

We swap the first and last characters, then the second and second-to-last characters, and so on until we reach the middle.

```
void reverse(char *str)
{
    size_t rightIndex, leftIndex = 0, strLength = strlen(str);

    if (strLength == 0) {
        return;
    }

    rightIndex = strLength - 1;
    while (leftIndex < rightIndex) {
        // swap characters
        char charAtLeftIndex = str[leftIndex];
        str[leftIndex] = str[rightIndex];
        str[rightIndex] = charAtLeftIndex;

        // move towards middle
        leftIndex++;
        rightIndex--;
    }
}
```

## Complexity

$O(n)$  time and  $O(1)$  space.

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Next up: Reverse Words → (</question/reverse-words?course=fc1&section=array-and-string-manipulation>)

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