Reverse String II

Given a string and an integer k, you need to reverse the first k characters for every 2k characters counting from the start of the string. If there are less than k characters left, reverse all of them. If there are less than 2k but greater than or equal to k characters, then reverse the first k characters and left the other as original.

Example:

```
Input: s = "abcdefg", k = 2
Output: "bacdfeg"
```

Restrictions:

1. The string consists of lower English letters only.
2. Length of the given string and k will in the range [1, 10000]

Solution 1

For every block of 2k characters starting with position i, we want to replace S[i:i+k] with it's reverse.

```
def reverseStr(self, s, k):
    s = list(s)
    for i in xrange(0, len(s), 2*k):
        s[i:i+k] = reversed(s[i:i+k])
    return "".join(s)
```

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Solution 2

```
public class Solution {
    public String reverseStr(String s, int k) {
        char[] arr = s.toCharArray();
        int n = arr.length;
        int i = 0;
        while(i < n) {
            int j = Math.min(i + k - 1, n - 1);
            swap(arr, i, j);
            i += 2 * k;
        }
        return String.valueOf(arr);
    }
    private void swap(char[] arr, int l, int r) {
        while (l < r) {
            char temp = arr[l];
            arr[l++] = arr[r];
            arr[r--] = temp;
        }
    }
}
```

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Solution 3

Tried to maximize usage of `StringBuilder` :)

```
public class Solution {
    public String reverseStr(String s, int k) {
        StringBuilder sb = new StringBuilder();

        int i = 0, j = 0;
        while (i < s.length()) {
            // first k
            j = i + k <= s.length() ? i + k : s.length();
            sb.append((new StringBuilder(s.substring(i, j))).reverse().toString()
);

            if (j >= s.length()) break;

            // second k
            i = j;
            j = i + k <= s.length() ? i + k : s.length();
            sb.append(s.substring(i, j));

            i = j;
        }

        return sb.toString();
    }

}
```

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