```java
public static String removeDoubleCharacters(String str) {
    if (str.isEmpty()) {
        return str;
    }

    StringBuilder result = new StringBuilder();

    char prev = str.charAt(0);
    result.append(prev);
    for (int i = 1; i < str.length(); i++) {
        char cur = str.charAt(i);
        if (prev != cur) {
            result.append(str.charAt(i));
        }
        prev = cur;
    }

    return result.toString();
}
```