



A diagram illustrating the flow of execution for the provided Java code. It features several purple circular nodes connected by lines. The nodes are positioned around the code, with lines indicating the flow from one statement to the next, such as from the function signature to the first conditional block, and from the loop body back to the loop start. Some lines also connect nodes to specific keywords or expressions within the code.

```
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();  
}
```