

The image shows a network diagram with nodes and edges overlaid on a Java code snippet. The nodes are represented by colored circles: purple, orange, red, and yellow. The edges are represented by lines connecting these nodes, with colors matching the nodes they connect. The code is as follows:

```
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();  
}
```