

```
public static String compute(String word1, String word2) {  
    String result = "";  
  
    if (word1.length() == word2.length()) {  
        for (int i = 0; i < word1.length(); i++) {  
            result = result + word1.charAt(i) + word2.charAt(i);  
        }  
    }  
  
    return result;  
}
```

The diagram illustrates control flow with three colored dots and connecting lines:

- A grey dot is located at the top right of the code, above the opening curly brace of the `compute` method.
- A purple dot is located on the left side of the code, next to the closing curly brace of the `for` loop.
- A red dot is located below the purple dot, next to the `return result;` statement.

Lines connect these dots to show the flow of execution:

- A grey line connects the grey dot to the opening curly brace of the `if` statement.
- A purple line connects the purple dot to the red dot.
- A red line connects the red dot to the closing curly brace of the `for` loop.