

# Java without local variables

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BED-Con 2015

- How to program without local variables?

- What are programming languages?
- How to program without local variables?

*a set (finite or infinite) of sentences, each finite in length and constructed out of a finite set of elements.*  
(Chomsky, 1957)

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aaabbb

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FileReader fileReader = new FileReader("info.txt");  
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    new BufferedReader(fileReader);
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Peter came by car. The car roared.

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TWM:

LTM:

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TWM:

LTM:

N: Peter

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LTM:



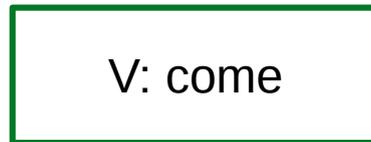
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TWM:

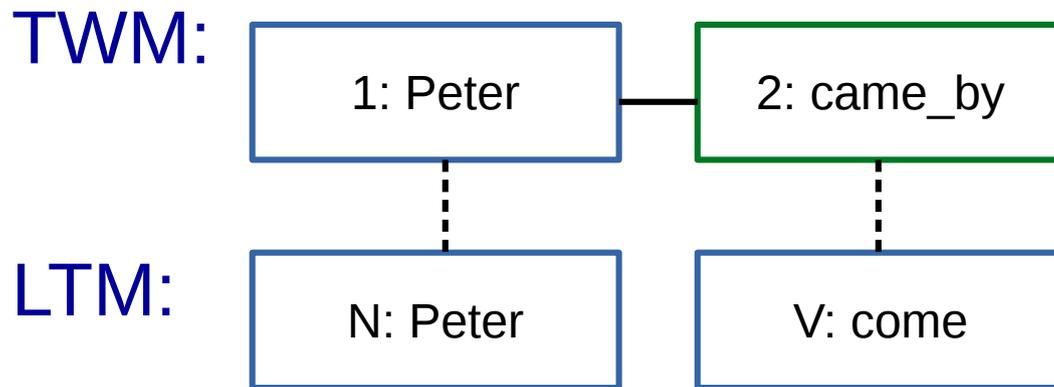


LTM:



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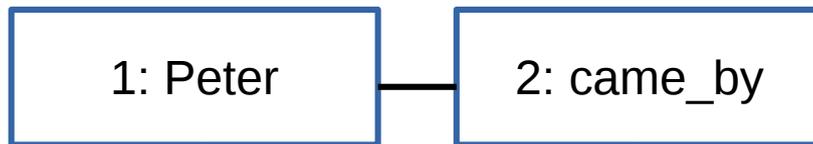
Peter came by



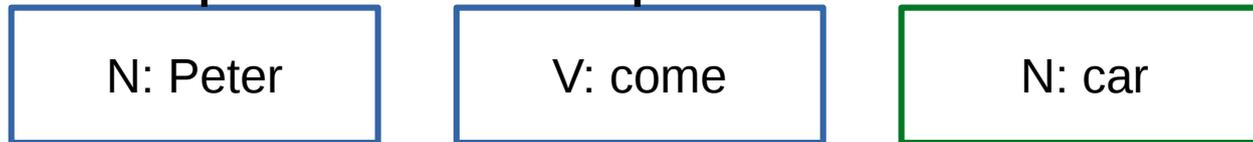
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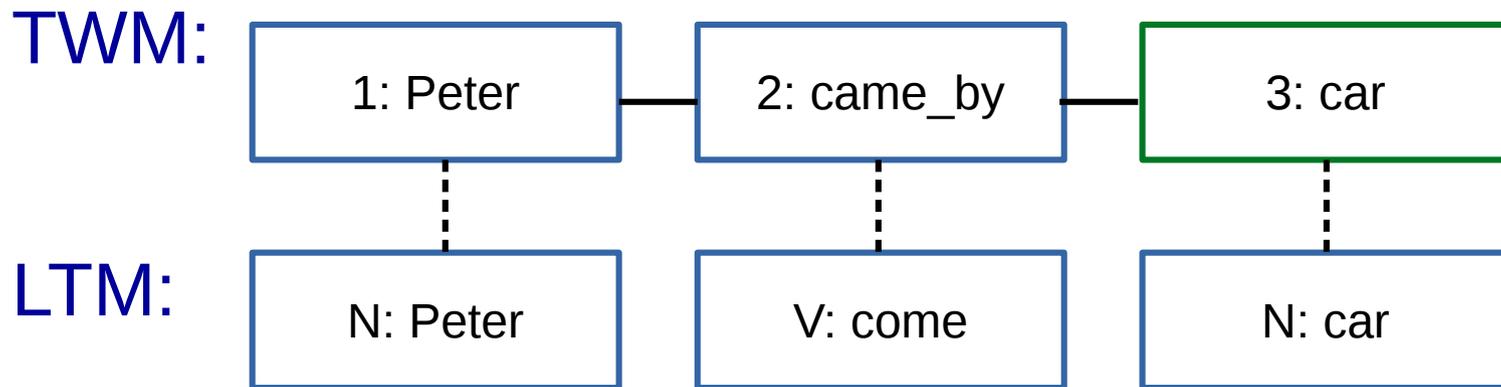


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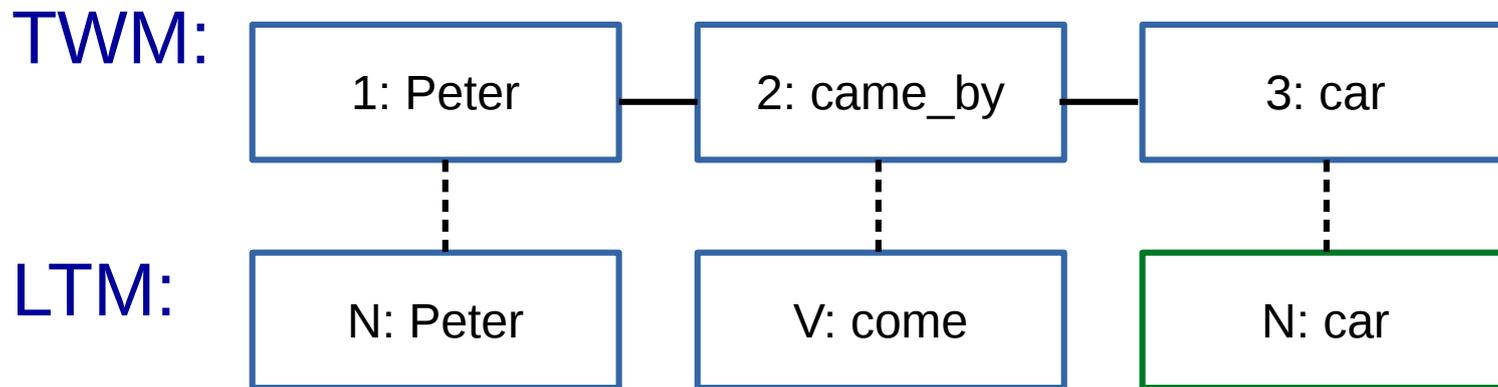
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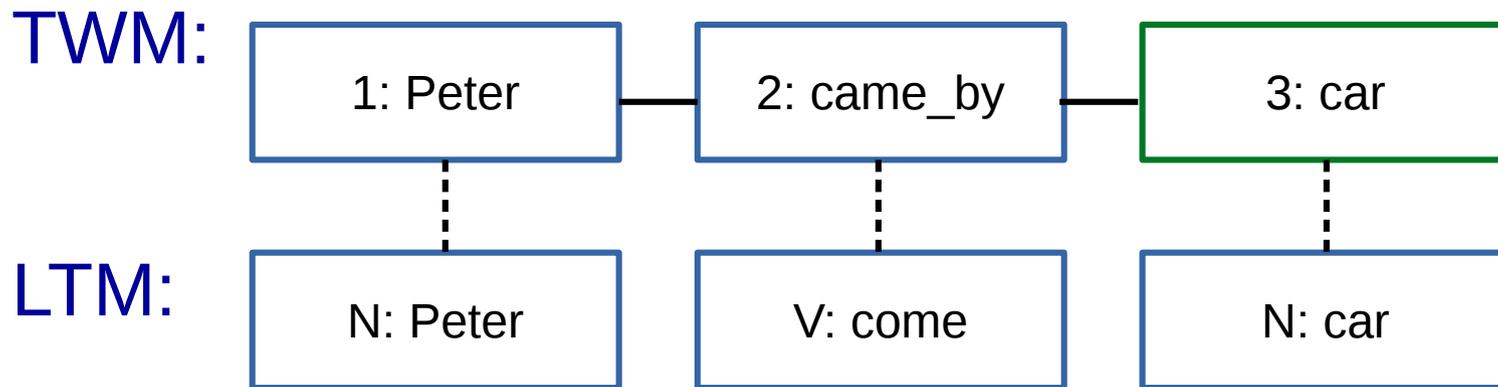
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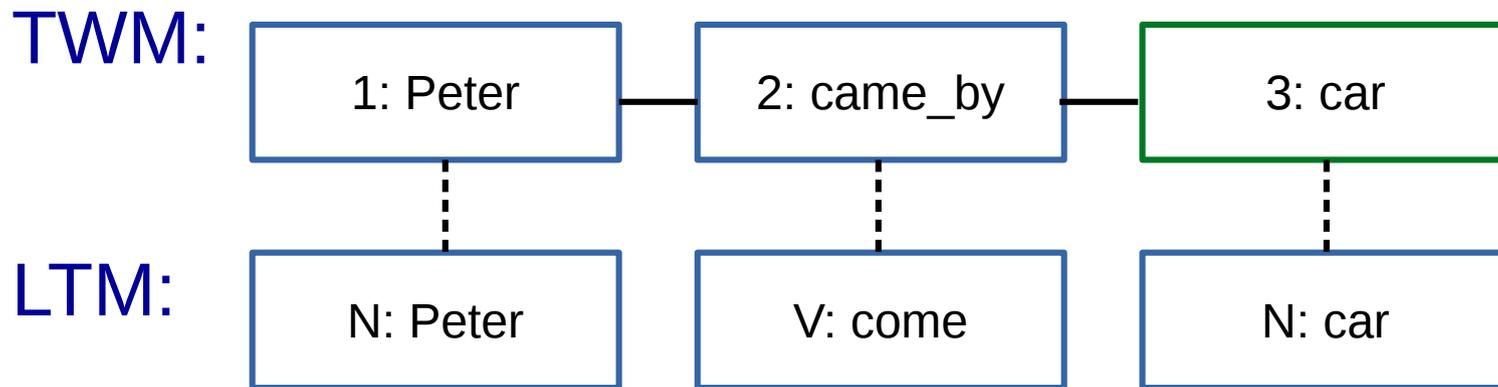
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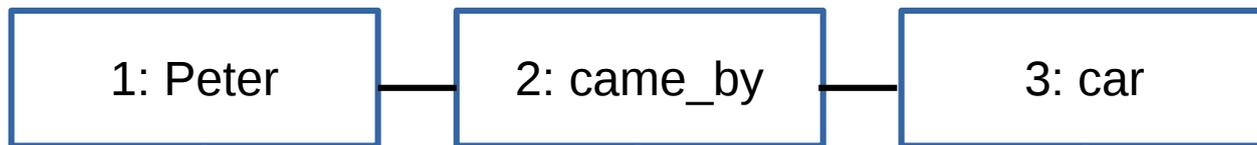
Peter came by car. The car<sub>ANAPHOR</sub>



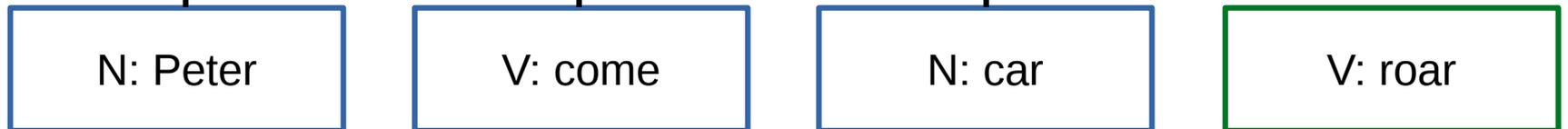
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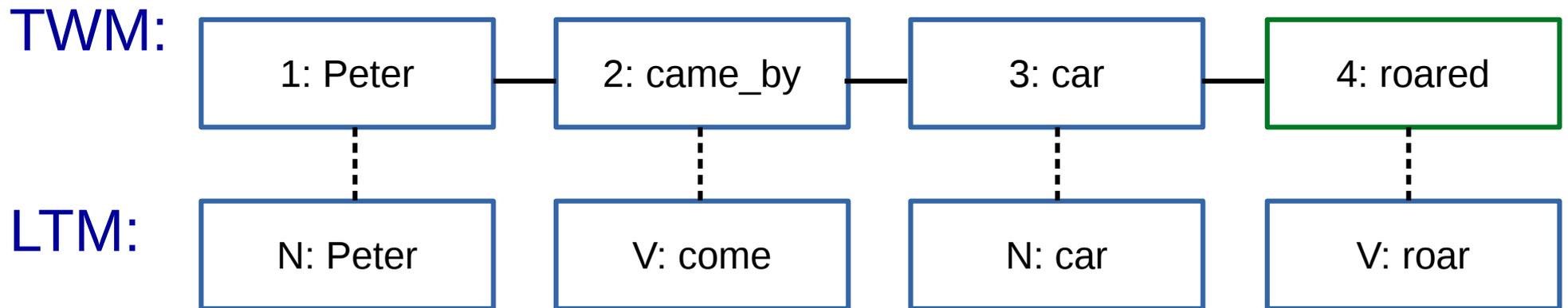


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- 1 Text: Code
- 2 Memories: IDE, Programmer

AST/  
TWM:

Decl./  
LTM:

- How to program without local variables?

```
new FileReader("info.txt");  
new BufferedReader(fileReader);
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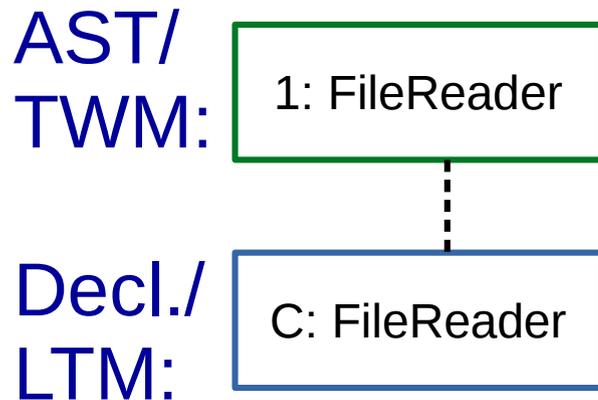
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AST/  
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LTM: C: FileReader

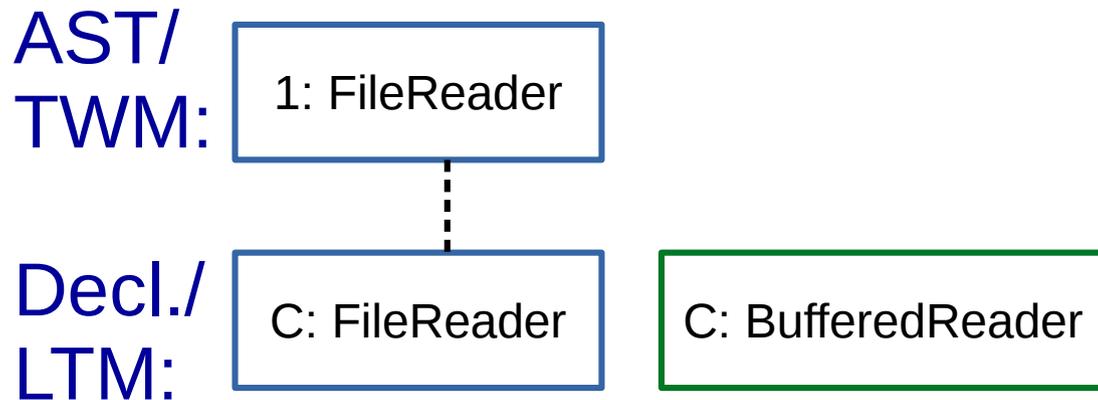
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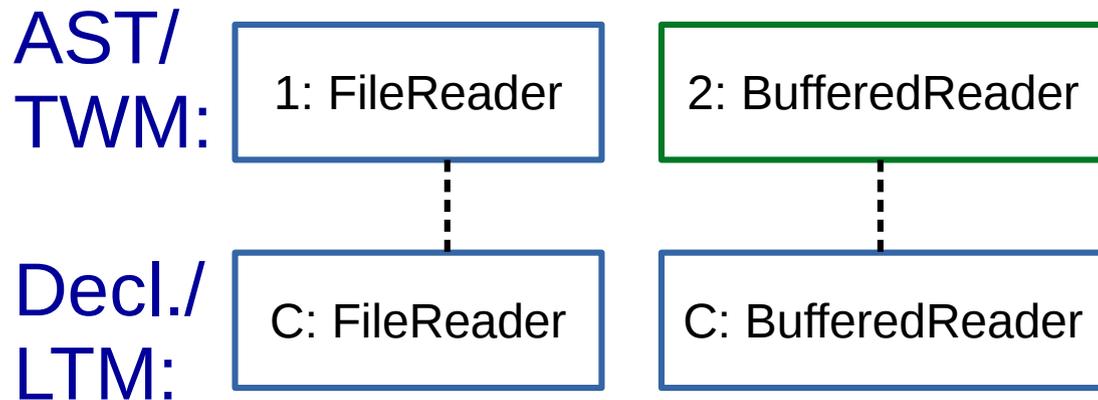
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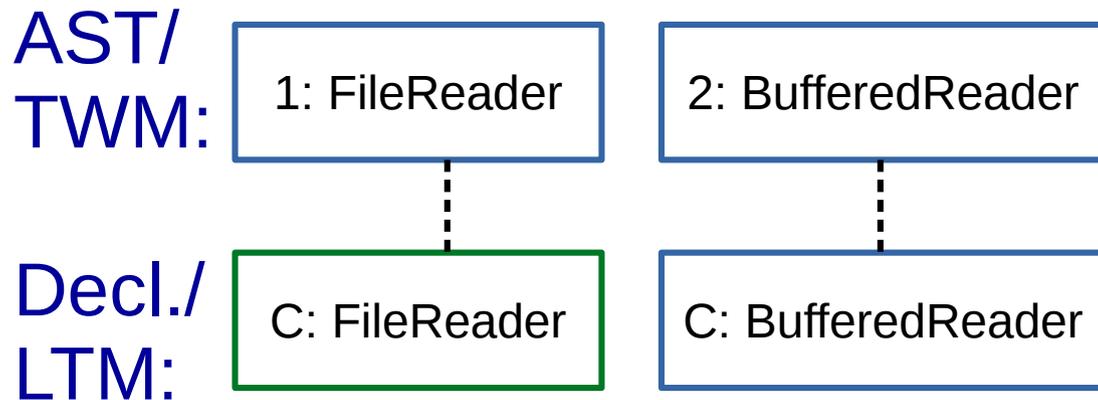
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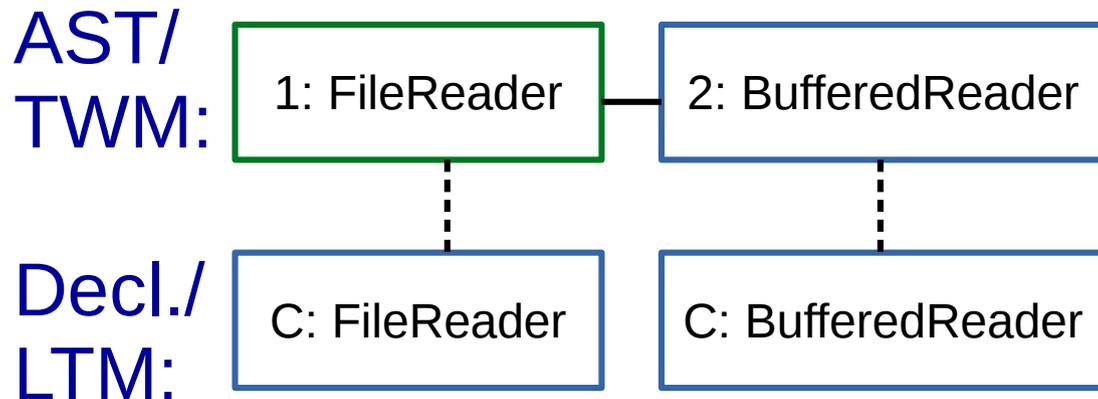
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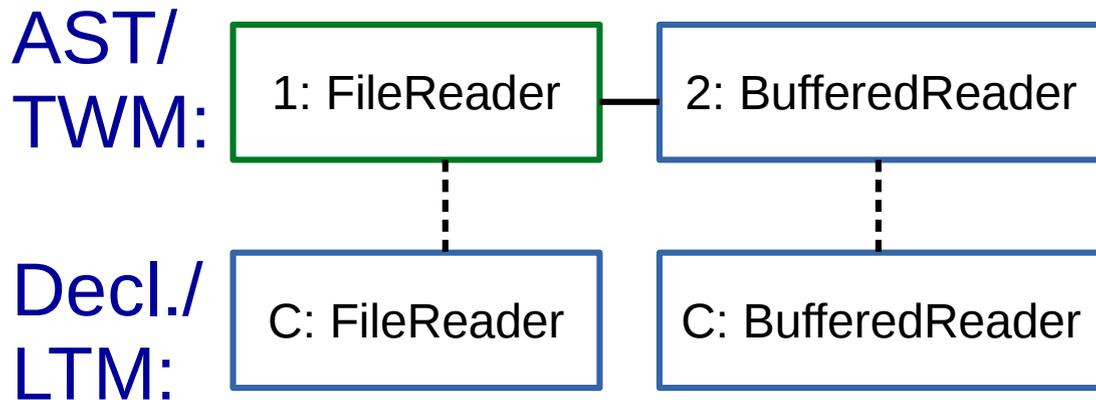
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Anaphors use previous information instead of naming

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In a variant of the Eclipse Java editor (Demo)

- How to program without local variables?

Java - de.monochromata.eclipse.anaphors.demo/src/main/java/de/monochromata/FileReaderWithAnaphors.java -

```
package de.monochromata;

import java.io.BufferedReader;
import java.io.FileReader;

public class FileReaderWithAnaphors {

    public static void main(String[] args) throws Exception {
        new FileReader("info.txt");
        new BufferedReader(fileReader);
        System.out.println(bufferedReader.readLine());
    }
}
```

Problems @ Javadoc Declaration Console

<terminated> FileReaderWithAnaphors [Java Application] /usr/lib/jvm/java-8-openjdk-amd64/bin  
Picked up JAVA\_TOOL\_OPTIONS: -javaagent:/usr/share/java/jayatanaag.jar  
Hello World!

- How to program without local variables?

```
Java - de.monochromata.eclipse.anaphors.demo/src/main/java/de/monochromata/FileReaderWithAnaphors.java -  
  
Package Explorer  
de.monochromata.eclipse.anaphors.demo  
  src/main/java  
    de.monochromata  
      FileReaderTest.java  
      FileReaderWithAnaphors.java  
  src/main/resources  
  src/test/java  
  src/test/resources  
  JRE System Library [J2SE-1.5]  
  src  
  target  
  info.txt  
  pom.xml  
  
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package de.monochromata;  
  
import java.io.BufferedReader;  
import java.io.FileReader;  
  
public class FileReaderWithAnaphors {  
  
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        FileReader fileReader = new FileReader("info.txt");  
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No need for <Shift>+<Alt>+<L> <Enter>

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Separates user interface from knowledge representation

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Plain .java files

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Individual display and translation at edit-time

- How to program without local variables?

- When to program without local variables?

Not before next summer, probably ...

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When unambiguous reference is possible ...

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```
new FileReader("info.txt");  
System.out.println(reader);
```

- When to program without local variables?

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System.out.println(reader);
```

- When to program without local variables?

Not before next summer, probably ...  
When unambiguous reference is possible ...

```
new FileReader("info.txt");  
new BufferedReader(readerfileReader);  
System.out.println(readerfileReader);
```

- When to program without local variables?

Not before next summer, probably ...  
When unambiguous reference is possible ...

```
new FileReader("info.txt");  
new FileReader("foo.txt");  
System.out.println(fooFileReader);
```

- When to program without local variables?

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```
new FileReader("info.txt");  
System.out.println(encoding);
```

- When to program without local variables?

Not before next summer, probably ...

When unambiguous reference is possible ...

```
new FileReader("info.txt");  
System.out.println(fileReader.getEncoding());
```

- When to program without local variables?

- Try the prototype: [sl@monochromata.de](mailto:sl@monochromata.de)

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- More questions?

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- Thank you!