

# Practical Java Programming

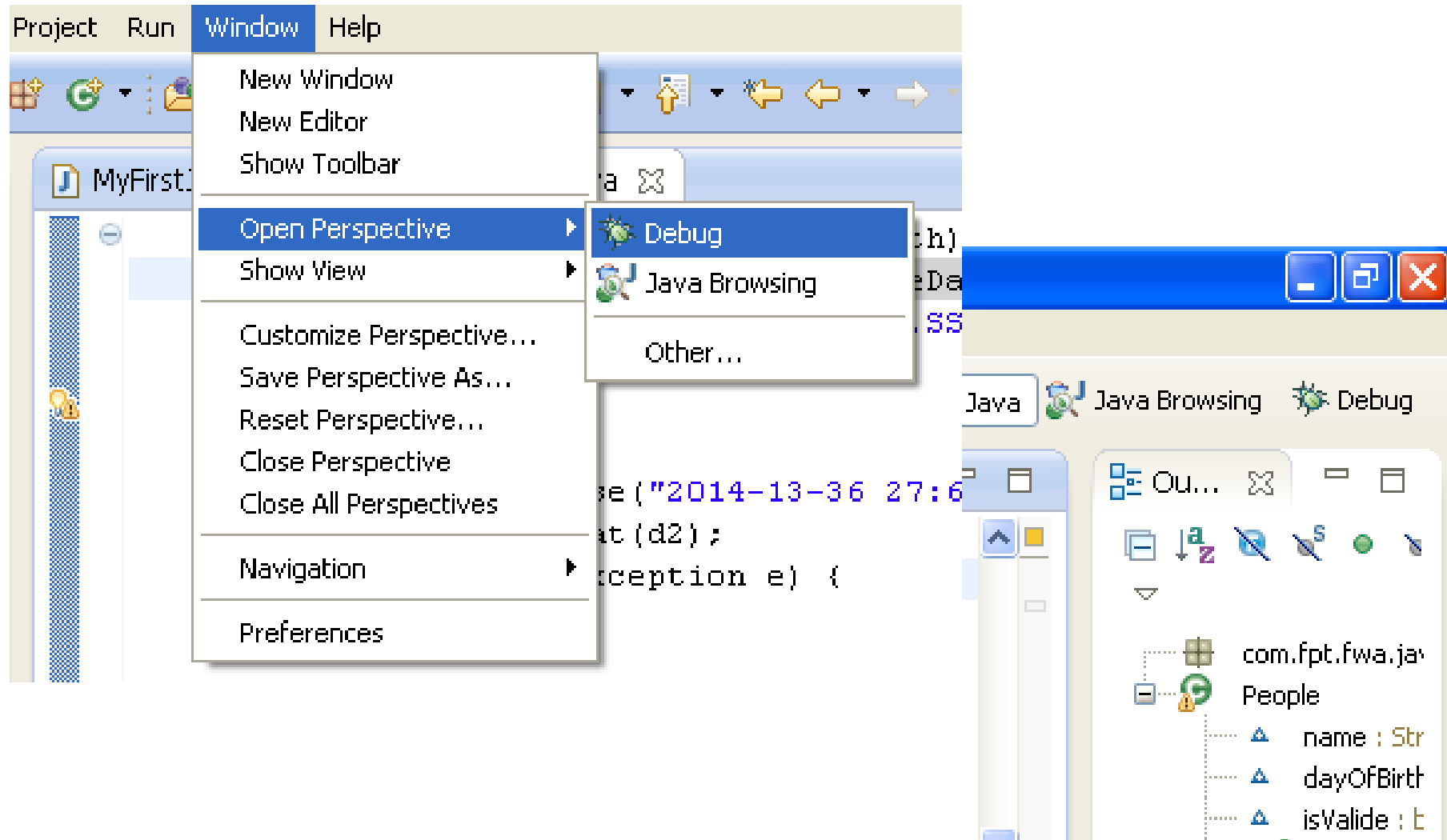
## DEBUGGING WITH ECLIPSE

Instructor:

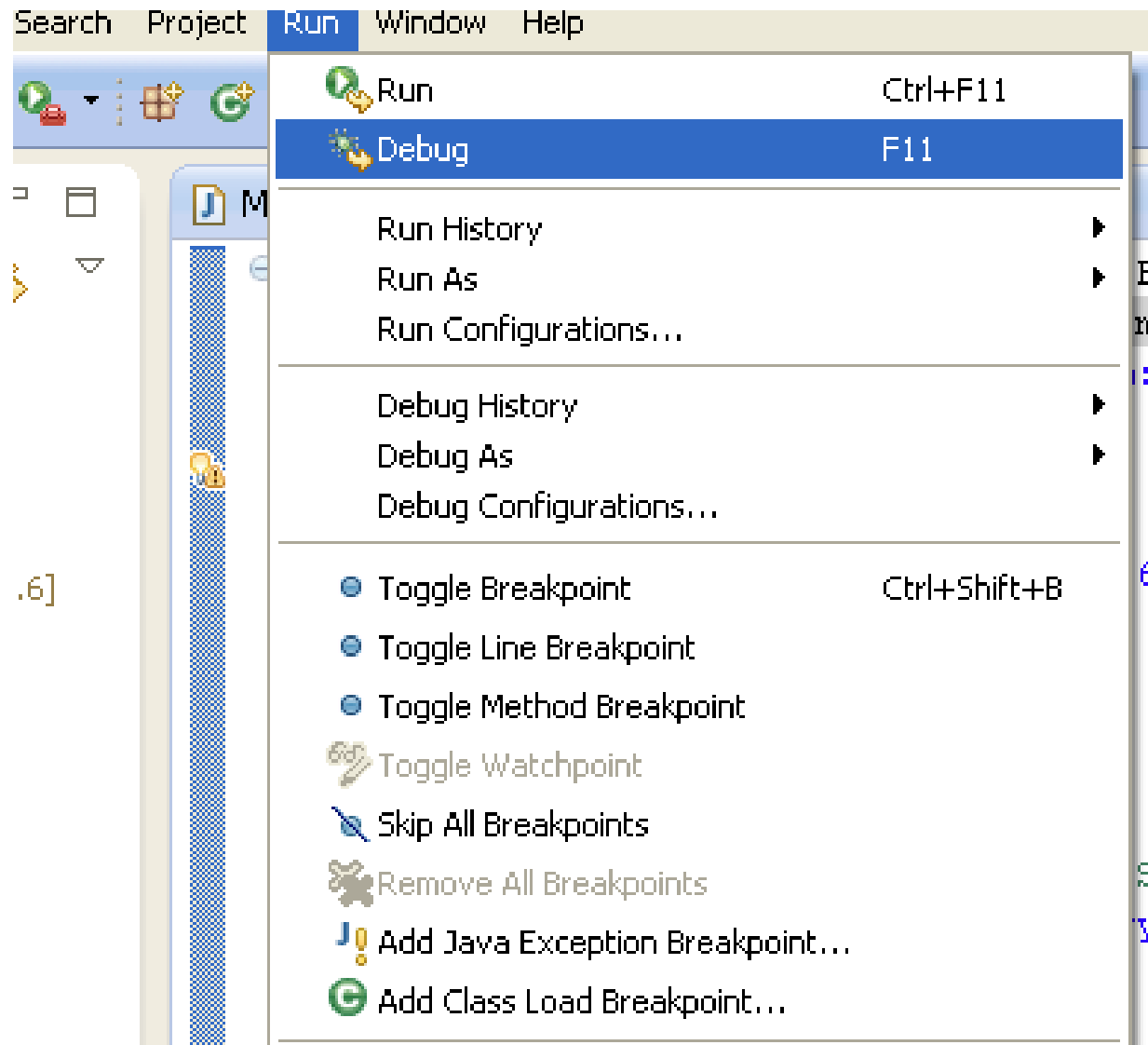


- ◇ Debugging feature
- ◇ Breakpoint
- ◇ Debug Step into, Step over Step return
- ◇ Watcher
- ◇ Comment bloc

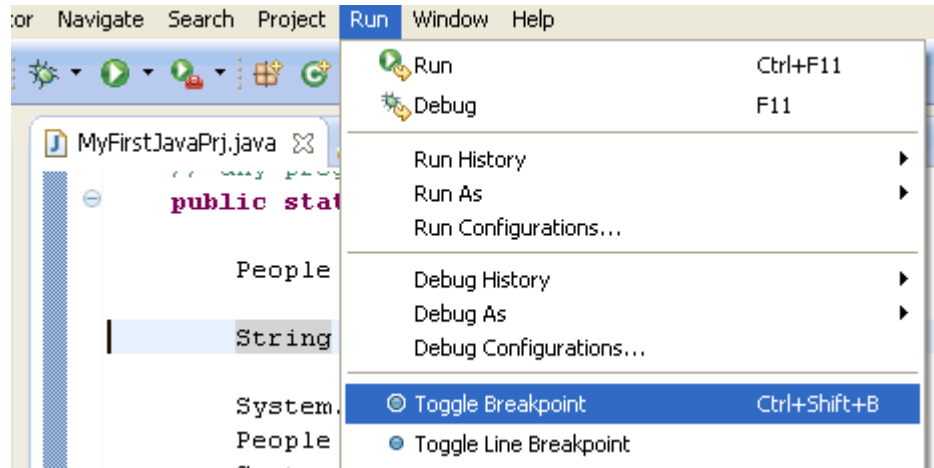
# Debugging perspective



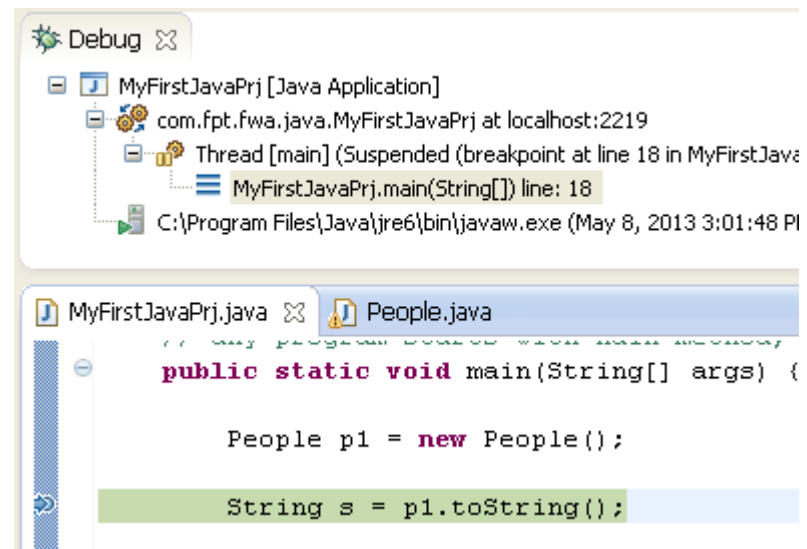
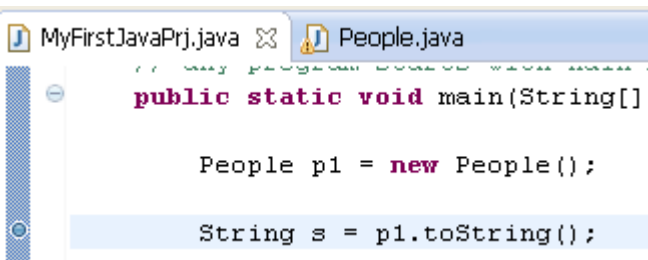
# Debug starting



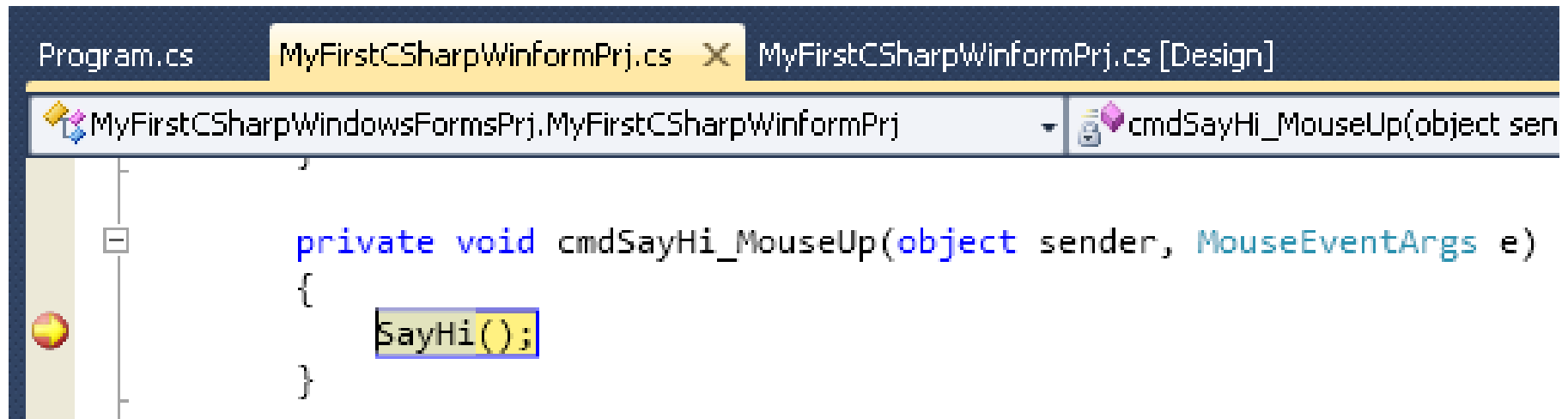
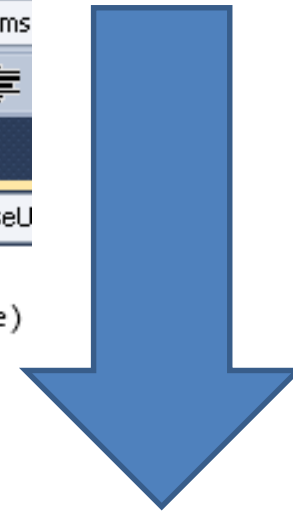
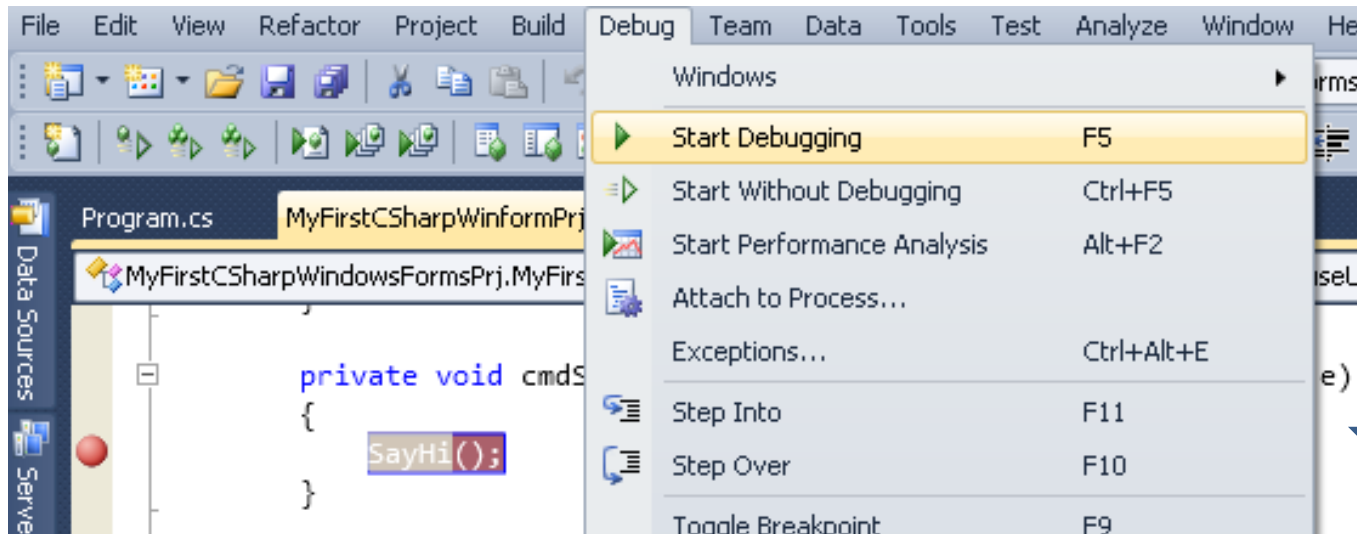
# Add Breakpoint



Add to cursor position



# Using Breakpoint



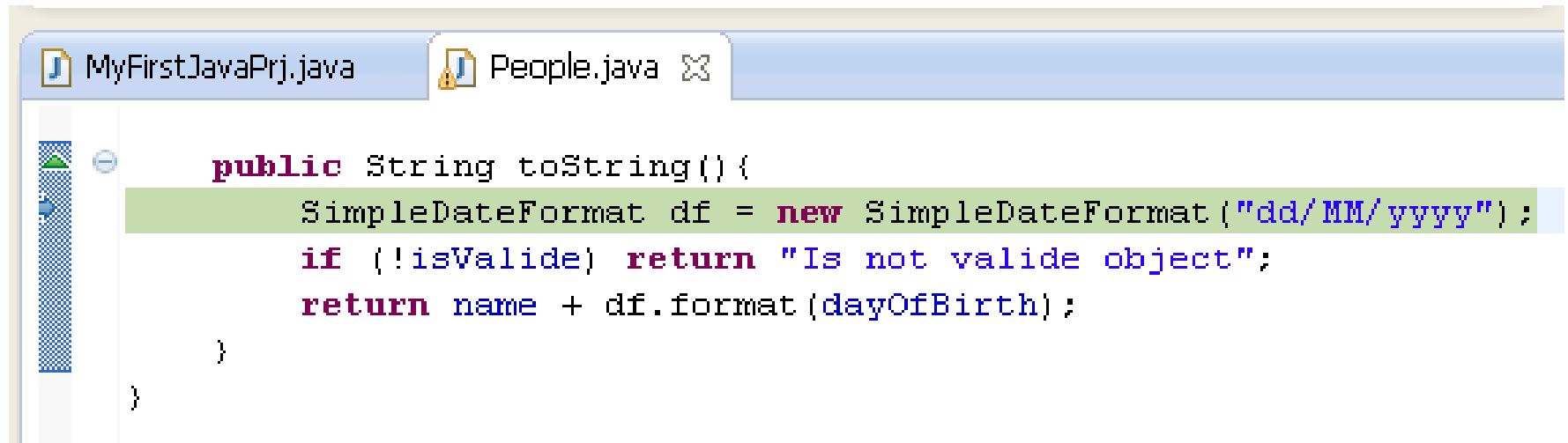
# Step Into starts

The screenshot shows an IDE interface with the 'Run' menu open. The menu items and their keyboard shortcuts are as follows:

Run Menu Item	Keyboard Shortcut
Resume	F8
Suspend	
Terminate	Ctrl+F2
Disconnect	
<b>Step Into</b>	<b>F5</b>
Step Over	F6
Step Return	F7
Run to Line	Ctrl+R
Use Step Filters	Shift+F5
<hr/>	
Run	Ctrl+F11
Debug	F11
<hr/>	
Run History	▶
Run As	▶
Run Configurations...	
<hr/>	
Debug History	▶
Debug As	▶
Debug Configurations...	

The IDE background shows a project named 'MyFirstJavaPrj' with a breakpoint set at line 18 of 'MyFirstJavaPrj.main(String[])'. The code editor displays the following Java code:

```
// my program created with an  
public static void main(String[] args) {  
  
    People p1 = new People();  
  
    String s = p1.toString();  
  
    System.out.println(s);  
}
```



```
MyFirstJavaPrj.java People.java ✕  
  
public String toString(){  
    SimpleDateFormat df = new SimpleDateFormat("dd/MM/yyyy");  
    if (!isValid) return "Is not valide object";  
    return name + df.format(dayOfBirth);  
}
```



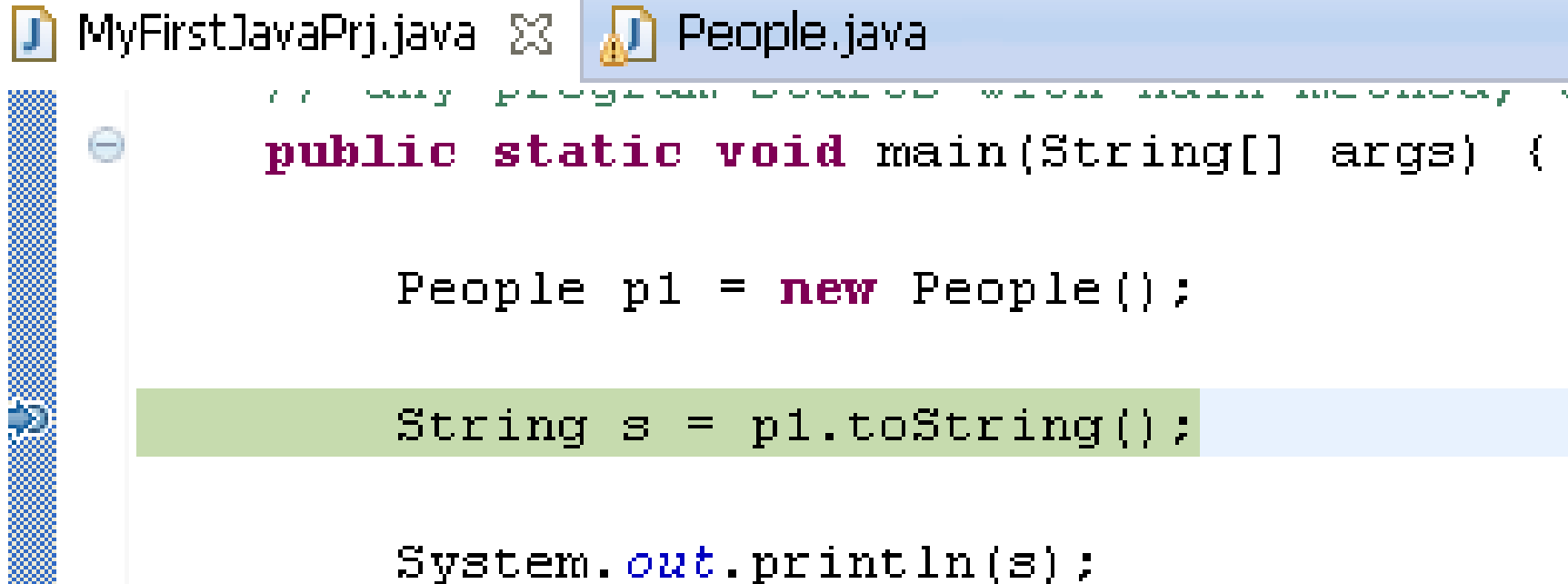
# Step Return

The screenshot shows an IDE interface with the 'Run' menu open. The menu items and their shortcuts are as follows:

Menu Item	Shortcut
Resume	F8
Suspend	
Terminate	Ctrl+F2
Disconnect	
Step Into	F5
Step Over	F6
<b>Step Return</b>	<b>F7</b>
Run to Line	Ctrl+R
Use Step Filters	Shift+F5
<hr/>	
Run	Ctrl+F11
Debug	F11
<hr/>	
Run History	
Run As	

The 'Step Return' option is highlighted in blue. In the background, the IDE shows a Java file named 'People.java' with the following code snippet:

```
public String toString(){  
    SimpleDateFormat df = new  
    if (!isValid) return "Is  
    return name + df.format(  
}  
}
```



```
// my program created with IntelliJ IDEA
public static void main(String[] args) {

    People p1 = new People();

    String s = p1.toString();

    System.out.println(s);
}
```

# Step Over stars

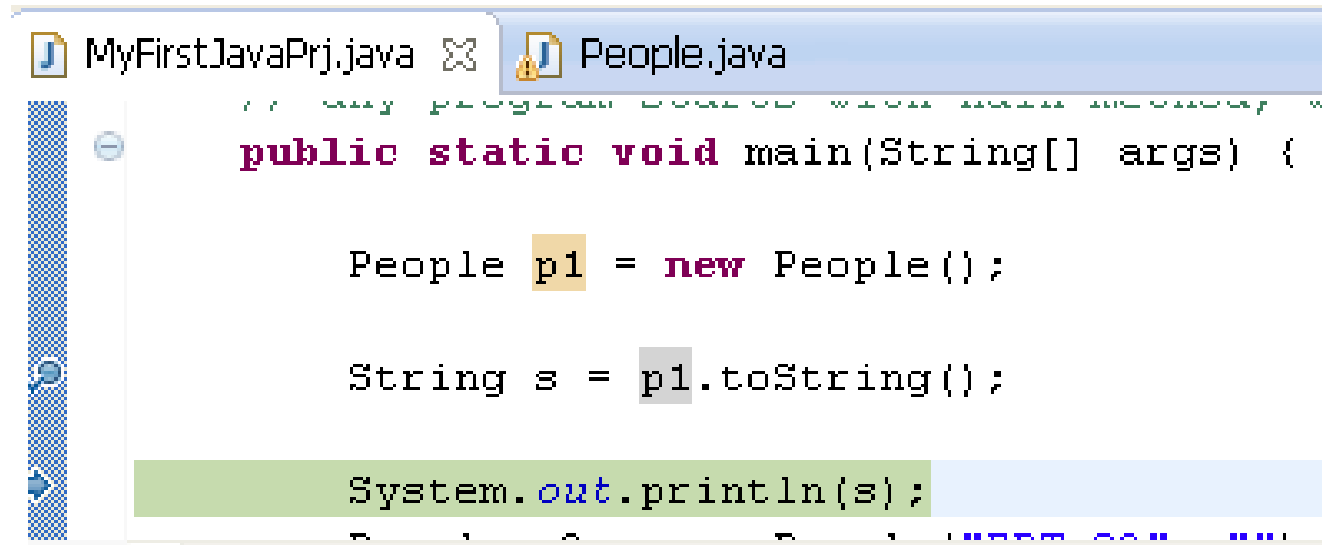
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Menu Item	Shortcut
Resume	F8
Suspend	
Terminate	Ctrl+F2
Disconnect	
Step Into	F5
<b>Step Over</b>	<b>F6</b>
Step Return	F7
Run to Line	Ctrl+R
Use Step Filters	Shift+F5
<hr/>	
Run	Ctrl+F11
Debug	F11
<hr/>	
Run History	▶
Run As	▶
Run Configurations	▶

The background shows the IDE with the 'MyFirstJavaPrj.main(String[])' method open. The code is as follows:



```
// my program starts with an  
public static void main(String[] args) {  
  
    People p1 = new People();  
  
    String s = p1.toString();  
  
    System.out.println(s);  
}
```






# Step over



```
// any program should have main method, *  
public static void main(String[] args) {  
  
    People p1 = new People();  
  
    String s = p1.toString();  
  
    System.out.println(s);  
}
```

# Variable watcher

(x)= Variables  Breakpoints  =






Name	Value
 args	String[0] (id=16)
  p1	People (id=26)
  s	"Is not valide object" (id=19)

# Expression watcher

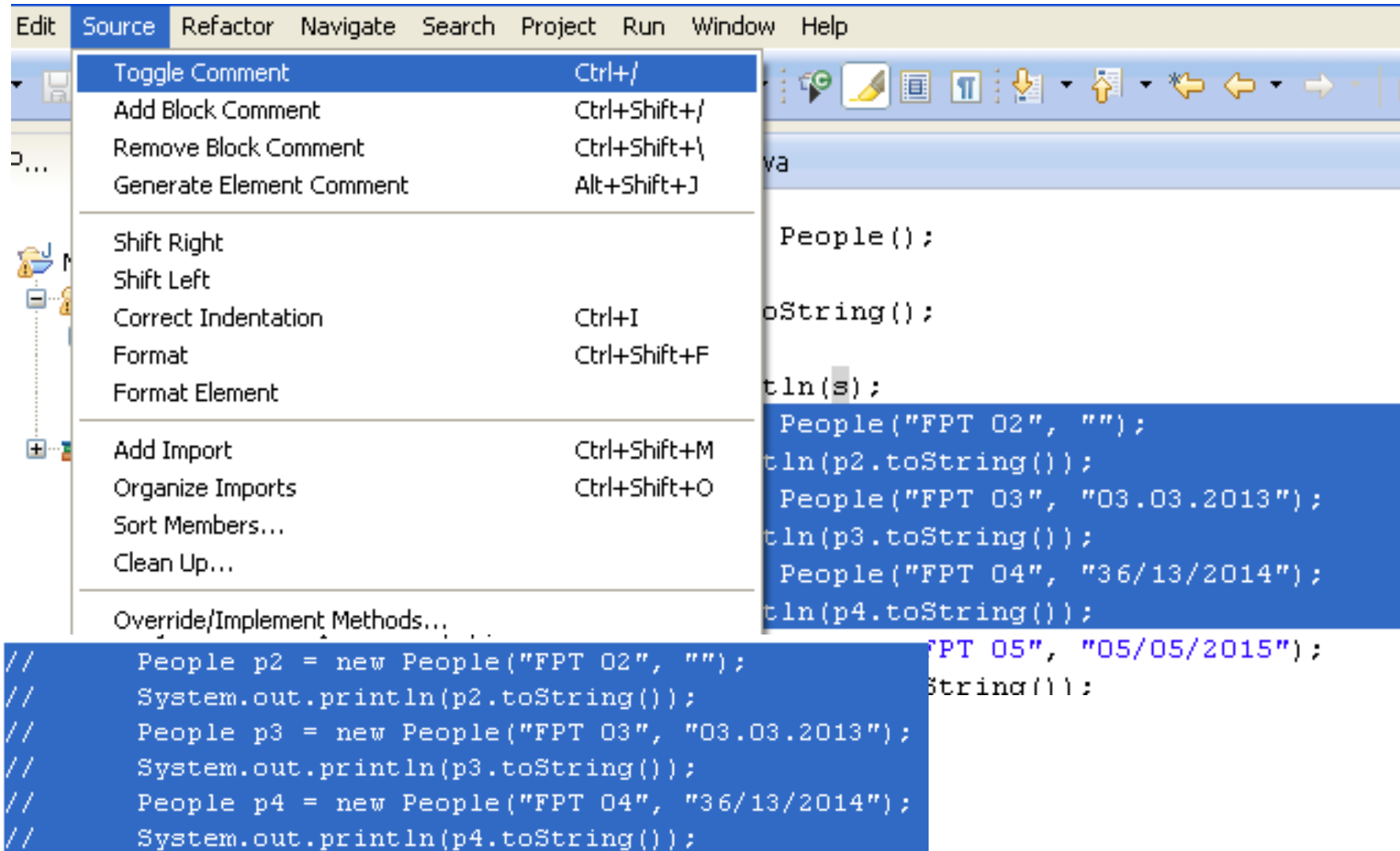
The screenshot shows the 'Window' menu with 'Show View' > 'Expressions' selected. The 'Expressions' tab is active in the bottom pane, displaying a table with columns 'Name' and 'Value'. A new expression '1 + 2' is being added to the list.

Name	Value
Add new expression	
1 + 2	

# Customized: out of context

(*)= Variables   Breakpoints   Expressions 	
Name	Value
 "1 + 2"	3
  "a"	<error(s)_during_the_evaluation>
 Add new expression	

# Deactivate/Reactivate





# Lesson Summary

- Start debugging: F11
- Breakpoint: Ctrl+Shift+B key
- Debug Step into and Step over: F5/F6 key
- Debug Step return: F7
- Debug Continue: F8
- Watcher: for variable “in context”
- Comment bloc: Ctrl+/\*

# Thank you

