

CS100J 08 November 2005: Applications and Applets

- Java application; How to produce a stand-alone application, to be run without using DrJava or any such IDE. Read sections 16.1 and 16.2.
- Java applet; how to put one in an html page. Read sections 16.3 and 16.4.

I see no hope for the future of our people if they are dependent on frivolous youth of today, for certainly all youth are reckless beyond words **Hesiod, 8th century BC**

What is happening to our young people? They disrespect their elders, they disobey their parents. They ignore the law. They riot in the streets inflamed with wild notions. Their morals are decaying. What is to become of them? **Plato**

Children now love luxury; they have bad manners, contempt for authority; they show disrespect for elders and love chatter in place of exercise. Children are now tyrants, not the servants of their households. They no longer rise when elders enter the room. They contradict their parents, chatter before company, gobble up dainties at the table, cross their legs, and tyrannize their teachers. **Attributed to Socrates by Plato**

The world is passing through troublous times. The young people of today think of nothing but themselves. They have no reverence for parents or old age. They are impatient of all restraint. They talk as if they knew everything, and what passes for wisdom with us is foolishness with them. As for girls, they are forward, immodest and unladylike in speech, behavior, and dress. **Peter the Hermit in A.D. 1274**

1

Java Application

Java Application: A class that has a method declared like this:

```
public static void main(String[] pars) {
    ...
}
```

You have not need to learn about applications and method main yet, because DrJava has its interactions pane. In most other systems, students have to learn about this strange method main on day 0 of a course.

The parameter is a String array. It is used to get values into the program when it starts.

2

```
public class C {
```

Java Application

```
    ...
    public static void main(String[] args) {
        ...
    }
    ...
}
```

```
> cd
> dir
(list of files)
> java C
```

Terminal window

(can type "java C" in DrJava Interactions pane)

Causes call
C.main(null);
to be executed

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A method main for A4

Place in file ImageJFrame.java

/** A JFrame with a picture in it, which is obtained using a dialogue window.*/

```
public static void main(String[] pars) {
    ImageJFrame ij;
```

```
    ij= new ImageJFrame("picture");
```

```
}
```

compile all
java files.

In a command-line or terminal window, you can now do the following:

1. Compile the classes: **javac *.java**
2. Run the program: **java ImageFrame**

Name of class that
contains
method
main

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Making a jar file

In the terminal window, set to the directory that contains the .class files, do this:

```
jar -cf nnn.jar *.class
```

Name
of
program
to run

"c": create.
"f": a file name follows

name of file
to create

.class files in current directory
will be put in file nnnn.jar

"jar" comes from "tar",
which stands for tape
Archive. A format used to
be able to save many files
and folder in one file, since
the early 1970s.

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Inspect a jar file

This command causes the contents of file nnn.jar to be listed:

```
jar -tvf nnn.jar
```

List contents of this file

Name
of
program
to run

"t": list contents
"v": verbose
"f": a file name follows

To get help with command jar,
do simply: jar

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Telling it which class has method main

To put in jar file info about which class contains method main:

Name of program to run

jar -umf man.txt nnn.jar

name of file to update

Manifest:
originally: list of passengers or an invoice of cargo for a ship. Generalized to a description of the contents of something.

Manifest file man.txt contains a single line:

Main-class: ImageJFrame<ret>

“u”: create.

“m”: manifest file follows

“f”: a file name follows

Must have a carriage return or line feed

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Applet: a java program that can be called from a web page (in your browser)

```
public class C {
    public static void main(String[] args)
    { ... }
}
```

application

Four inherited procedures:

```
import javax.swing.*;
public class A extends JApplet{
    public void init() { ... }
    public void start() { ... }
    public void stop() { ... }
    public void destroy() { ... }
}
```

applet

called to initialize

called to start processing

called to stop processing

called to destroy resources (just before killing the applet)

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An html (HyperText Markup Language) file

```
<html>
<head>
  <title>FacultyApplet</title>
</head>
<body>
  <p align="center"><B>This</B> is
    an <i>Applet!</i>
  </p>
  <br><br>
  <p><applet archive="AppletClasses.jar"
    code="FacultyApplet.class"
    width=800 height=550>
  </applet>
</p>
</body>
</html>
```

tags

<html>	start an html page
<head>	start the "heading"
<title>	the title for the page
<body>	start the body, content of the page
<p>	begin a paragraph
	begin boldface
<i>	begin italics
<applet>	start a Java applet

	line break (no end tag)

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