

**CS100J 2 December 2008**  
**Applications and Applets**  
**Read Chapter 16 of the text**

**We also look at html, since we need it to use applets.**

**Top finalists from a real-life "Dilbert quotes contest"**

As of tomorrow, employees will be able to access the building only using individual security cards. Pictures will be taken next Wednesday and employees will receive their cards in two weeks." (Fred Dales, Microsoft)

I need an exact list of specific unknown problems we might encounter. (Lykes Lines Shipping)

Email is not to be used to pass on information or data. It should be used only for company business. (Accounting manager, Electric Boat Company)

This project is so important, we can't let things that are more important interfere with it. (Advertising/Marketing manager, United Parcel Service)

Doing it right is no excuse for not meeting the schedule. (Plant manager, Delco Corporation)

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**Online Course Evaluations**

Completing the online course evaluation for CS1110 is a part of the course. It counts the same amount toward your final total weighted score as a quiz.

**Please complete it!**

You received an email about it, with the web address.

Engineering started online evaluations in about 2004. Now A&S, CALS, and HE also do it, and there will be ONE site for all courses. Togetherness!

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**Executing Java programs outside the DrJava Interactions pane.**

**Every Java program is either an application or an applet.**

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

The parameter, an array of Strings, can be used to pass information into the program.

A Java application needs a class with a method main that is defined like this.

To start the application, method main is called.

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

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

Terminal window

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

Causes method call CLAS.main(null); to be executed

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**jar file (Java Archive file)**

(like tar file (Tape Archive file))

Contains (among other things)

- (1) .class files
- (2) a "manifest", which says which class has method main

**Manifest:**

A list of passengers or an invoice of cargo for a vehicle (as a ship or plane).

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**Standalone Java programs**

**Suppose images.jar contains a Java application**

**It has a class with a static procedure main, and its manifest names the class.**

- Execute it by double clicking its icon in a directory.
- Execute it by typing

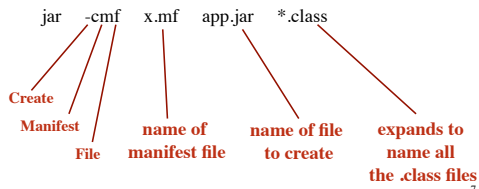
**java -jar images.jar**

in a terminal window (or DOS, or command-line window)

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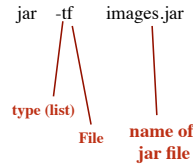
### Creating a jar file

1. Navigate to the directory that contains the .class files.
2. Create a text file x.mf that contains one line (with a line-feed):  
Main-class: <name of class>
3. In the directory, type:



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### Inspecting jar files



List the contents of jar file images.jar

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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

```

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

```

applet

- Four inherited procedures:
- 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>Just a title</title> </head>
<body>
<p align="center"><B>Demo Links and Images</i></p>
<p>This is
<a href="http://www.cs.cornell.edu/courses/cs100j/2006sp/"> a link</a></p>
<p>This <a href="http://www.cs.cornell.edu/courses/cs100j/2006sp/"
target="_blank">link</a>
opens a new window</p>
<p>Below is an image </p>
<p>
</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
- <a> begin a link
- <img> begin an image

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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
- <b> begin boldface
- <i> begin italics
- <applet> start a Java applet
- <br> line break (no end tag)

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