CS1110 1 December 2009 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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```
Executing Java programs outside the DrJava Interactions pane.

Every Java program is either an application or an applet.

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

To start the application, method main is called.

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

```
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)
```

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).

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.

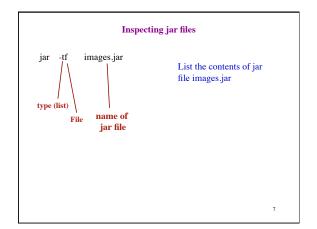
- Execute it by double clicking its icon in a directory.
- Execute it by typing

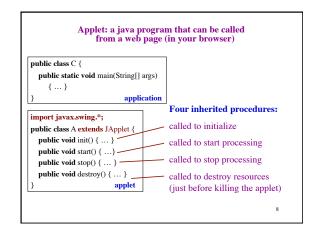
java -jar images.jar

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: iar -cmf x.mf *.class app.jar Create Manifest name of name of file expands to manifest file name all to create the .class files





```
public class Quizit extends JApplet {
                                                   Ouizit is both
  // = "started as an applet"
                                                        an applet
  private boolean isApplet= false;
                                                              and
  public Quizit() {}
                                                   an application
  /** = "started as an applet" */
  public boolean isApplet()
    { return isApplet; }
  public static void main(
                                         /** initialize applet */
                      String[] pars) {
    Quizit a= new Quizit();
                                          \boldsymbol{public\ void\ init()}\ \{
    a.isApplet= false; ...
                                             isApplet= true; ...
    a.readTopicsFile(br);
                                             readTopicsFile(br);
    a.gui= new A7GUI(
                                             gui= new A7GUI(
              a.fillItems(), a);
                                                  fillItems(), this);
```

```
An html (HyperText Markup Language) file
<html>
 <head> <title>Just a title</title> </head>
 <body>
  align="center"><B>Demo Links and Images</i>
   This is
    <a href="http://www.cs.cornell.edu/courses/cs1110/2009sp/"> a link</a>
   This <a href="http://www.cs.cornell.edu/courses/cs1110/2009sp/"</p>
      target="_blank">link</a> opens a new window
                                                      start an html page
                                             <head>
                                                      start the "heading"
  Below is an image 
                                                      the title for the page
                                            <title>
                                                      start the body,
  <img src="Hilbert_curve.png"
width="544"
                                             <body>
                                                       content, of the page
                                      tags
                height="352">
                                             begin a paragraph
                                                       begin a link
                                             <a>
 </body>
                                            <img>
                                                      begin an image 10
</html>
```

```
An\ html\ (\textbf{HyperText}\ \textbf{M} arkup\ \textbf{Language})\ file
                                                 tags
  <head>
                                                  <html>
                                                             start an html page
     <title>FacultyApplet</title>
                                                  <head>
                                                             start the "heading"
 </head>
                                                  <title>
                                                             the title for the page
 <body>
     <B>This</B> is
                                                  <body>
                                                             start the body, content, of the page
             an <i>Applet!</i>
                                                  begin a paragraph
    <br>/br><br/>/
                                                  <h>
                                                             begin boldface
     <applet archive="AppletClasses.jar"
                                                  <i>>
                                                             begin italics
          code="FacultyApplet.class"
width=800 height=550>
                                                  <applet>
                                                             start a Java applet
         </applet>
                                                             line break (no end tag)
    </body>
</html>
```