

Java Applications & the BlueJ IDE

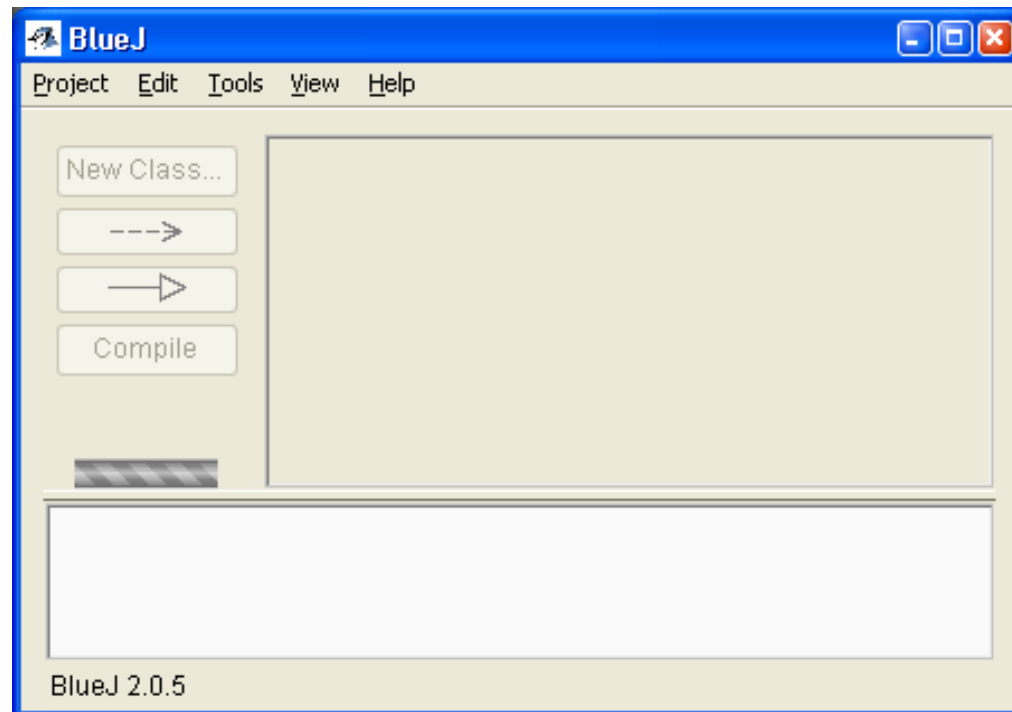
- Java applications must be
 - Prepared as *source text* in the Java language
 - Then *compiled (translated)* into runnable form
 - Then run or viewed by the Java Virtual Machine
- To do this we will use the **BlueJ IDE**
- IDE stands for “integrated development environment”
- The IDE helps to manage the process of
 - Preparing the program (application)
 - Translating the program so it can be run
 - Running/viewing the program
- BlueJ organizes your work into *projects*
 - A project is all the files for a particular program
 - All in one folder

Copying a simple project


- The easiest way to start is to take a copy of an *already existing project*, and to ask BlueJ to open it
- First, a simple project has already been built for you: In the usual way open a window and navigate to:
My Computer\Groups on Wide (V:)\CSC932\Practicals
- Then open a new window for your Home folder (**My Documents**), create a new subfolder **CSC932**, open it and create a new subfolder **Practicals**, and open that folder (You may wish to create further subfolders, for example, one per practical - that is up to you)
- Finally, *drag a copy* of the folder named **Hello** from **V:\CSC932\Practicals** into *your* newly created **Practicals** folder in your own file store
- You can take a quick look inside your **Hello** folder - but do not try to open any of the files directly

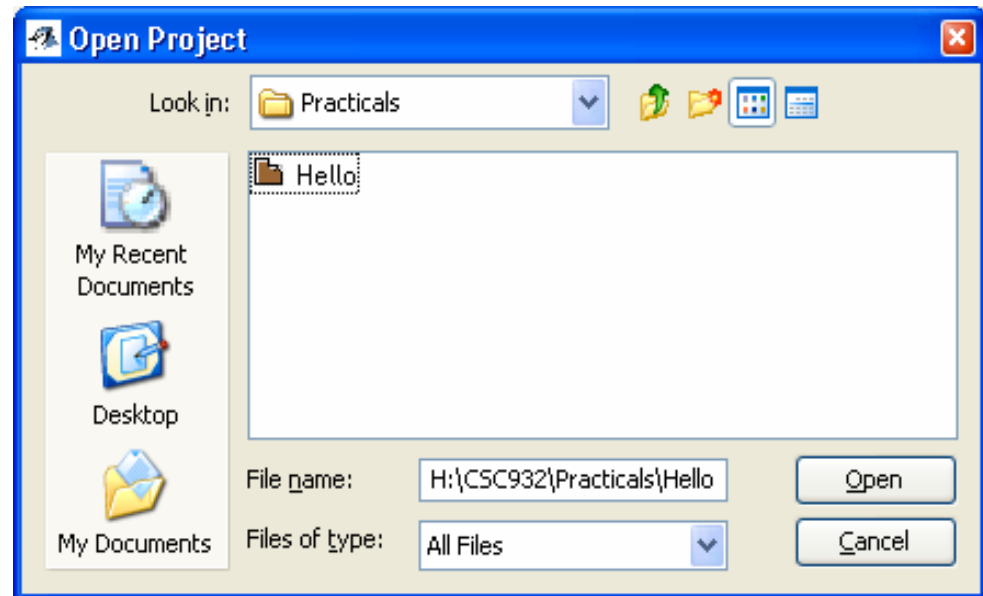
Launch the BlueJ IDE

- Always launch BlueJ from the Start menu:
Start / Programs / BlueJ / BlueJ
- The BlueJ window will appear, with a menu bar across the top:
- It may open a previous project immediately -
If so select
Project menu/Close



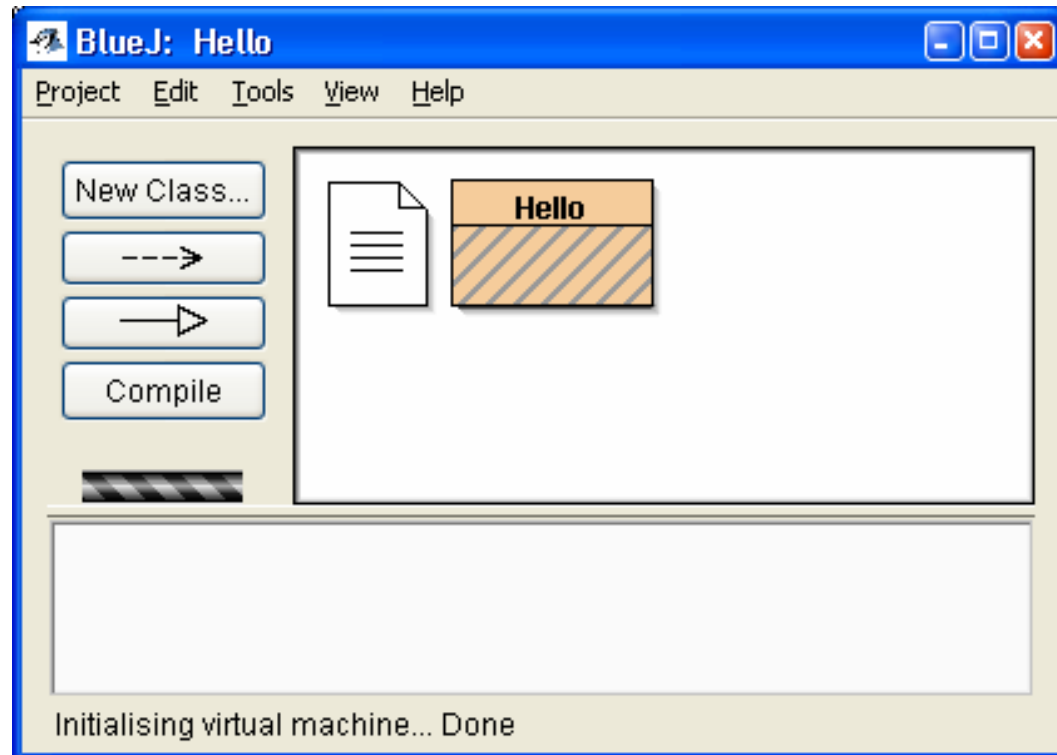
Open your simple project

- Now ask BlueJ to open your copy of the simple project that you copied earlier:
- Select BlueJ's **Project menu/Open Project** - a file chooser dialogue box will pop up
- In the usual way navigate to **My Documents / CSC932 / Practicals**, and you should see something like this:
- Click ONCE on the folder **Hello** (it might have a strange "package" icon  Hello)
- Click **Open**
- BlueJ will open the project and display its contents



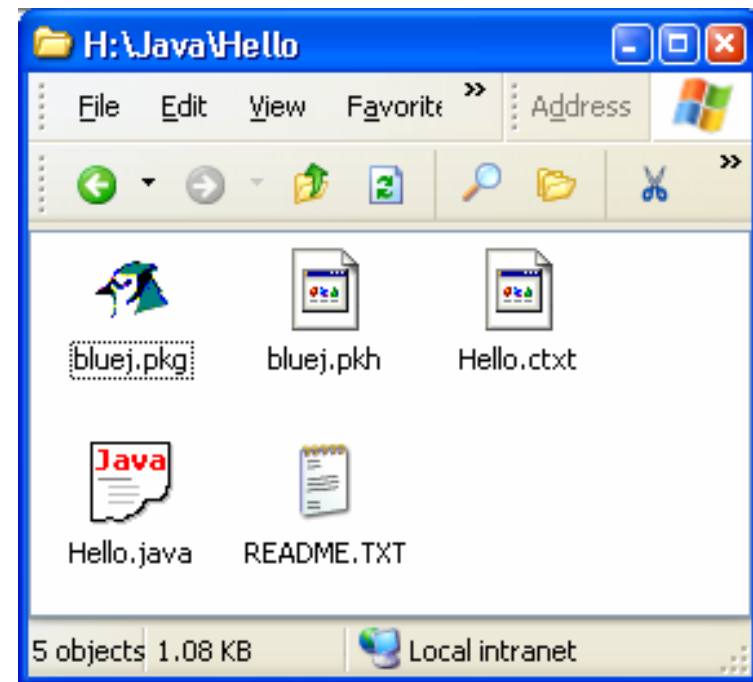
The BlueJ Window

- You will see a screen like the one below
- The upper white sub-window shows that there is one Java file, **Hello.java**, in the project folder
 - The stripes indicate that **Hello.java** has not yet been compiled
- It also shows that there is a descriptive plain text file in the folder



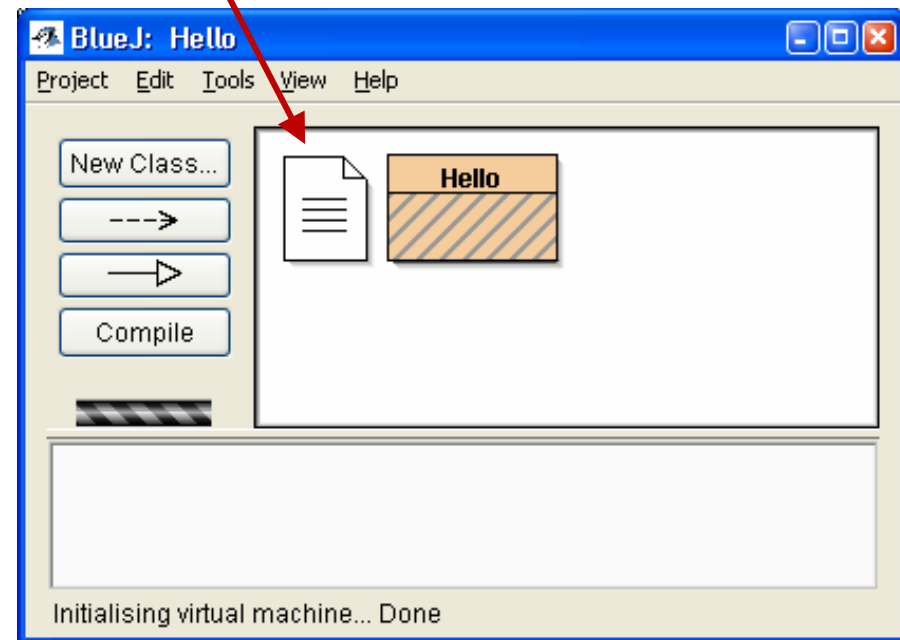
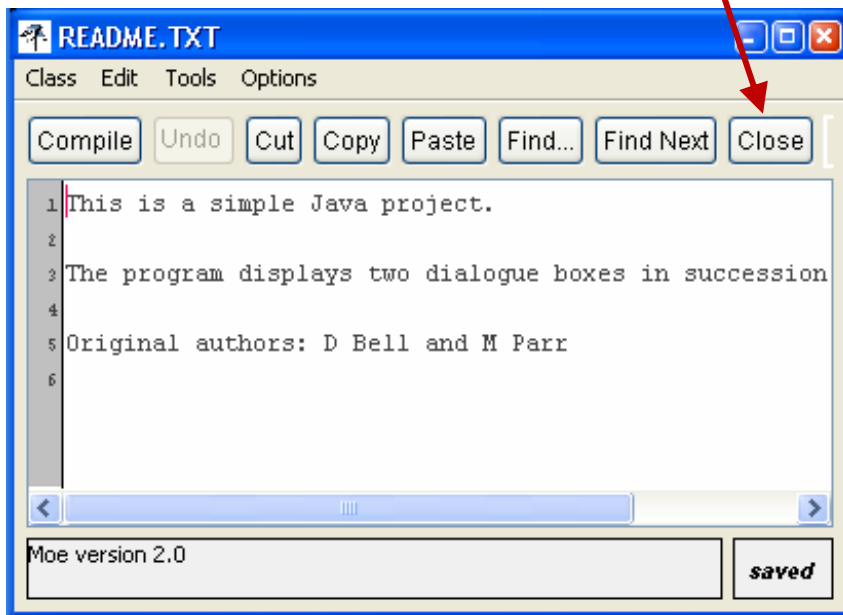
The project folder

- On the desktop, open your Home folder (**My Documents**) and navigate to the new folder **CSC932\Practicals\Hello** that you created. Open it
- This folder contains the basic necessary items for a BlueJ Java project (which have been created for you):
- Note that the icons might not all appear as in this image, and not all might be present yet
- Look at the file name extensions to see which file is which (you may need to enable the extensions via **Tools/Folder Options**)



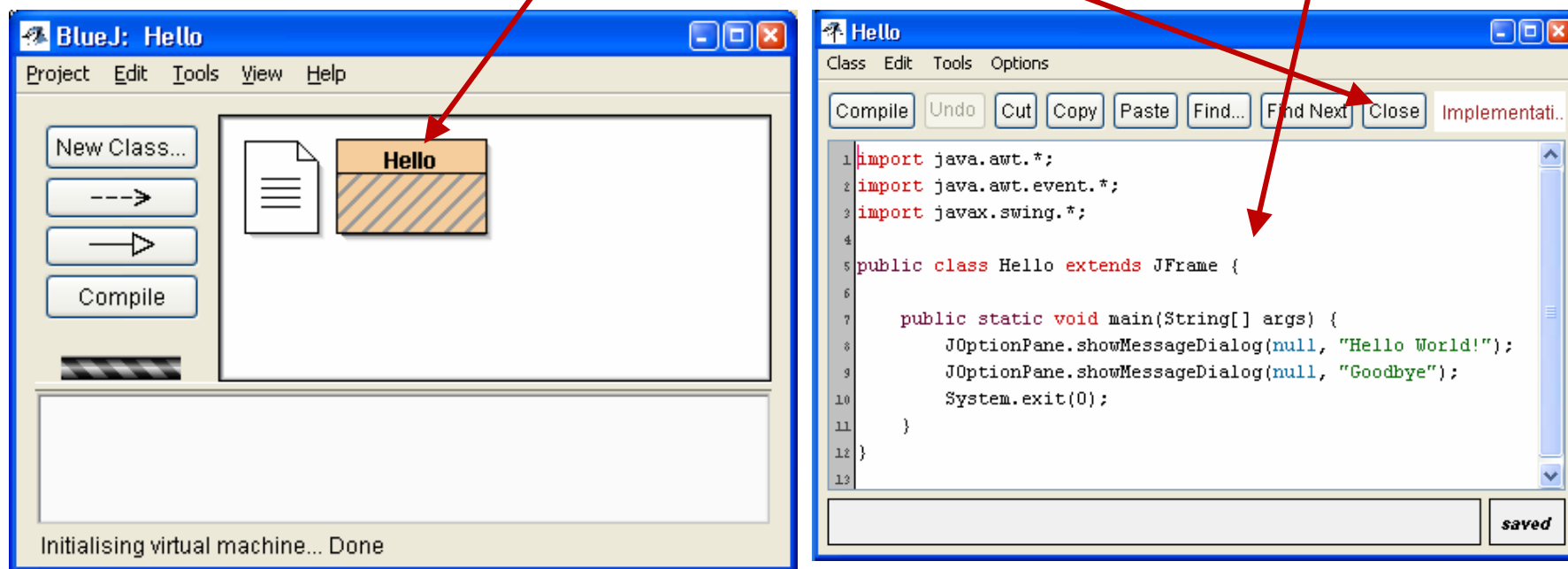
The descriptive notes file

- Switch back to the BlueJ window
- Double click on the text file icon
- BlueJ will open a new editor window and show you the description - click Close when you have read it



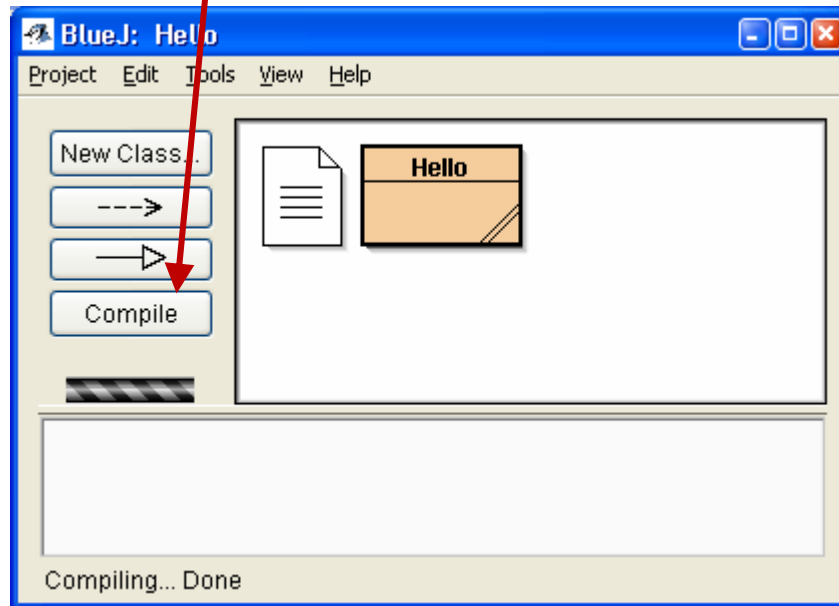
The Java file

- Double click on the stripey Hello icon
- BlueJ will open a new editor window and show you the Java
- BlueJ uses colours to indicate different parts of the program, but they are not saved in the file
- Click Close when you have looked at it

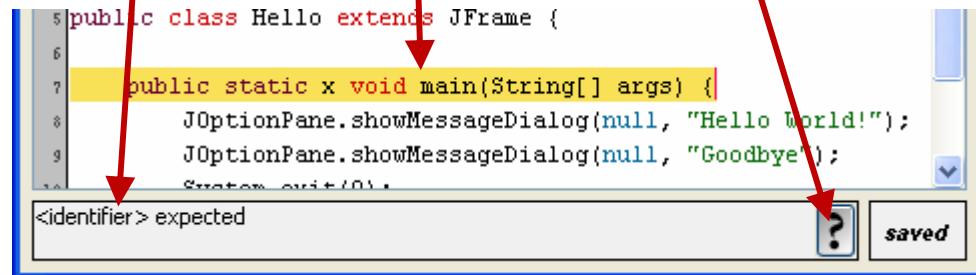


Compiling an application

- Programs in Java must be *compiled* (translated into bytecode) before they can be run
- The BlueJ IDE organises this for us
- Click the Compile button, and wait a bit...
- When compiling has finished, the stripes disappear, and "Compiling... Done" appears at the bottom of the window



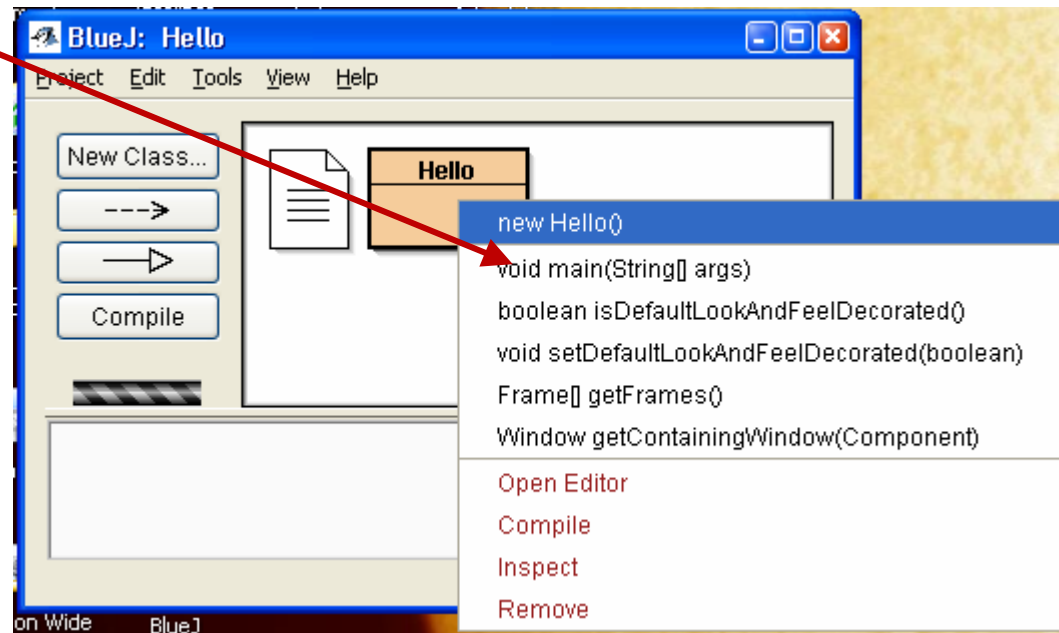
- If the program contains errors, the translation may not be possible:
 - The IDE will show an error message in the Java editor window (which will be re-opened automatically if necessary)
 - The cursor will be placed where the error was detected, and some of the text may be highlighted
- For more help on an error, click the question mark
- After making corrections, click the Compile button again
 - There is a handy one in the editor window too!
- Note: The IDE *automatically* saves files



Running the application

- When there are no more compiling errors, the application is ready to run
- Switch to the main BlueJ window
- Click the RIGHT MOUSE BUTTON on the Hello icon
- A list of possible actions will pop up
- Click ONCE on the option that says **void main(String[] args)**

to request that action to be carried out - remember, the **main** section of the program specifies the action to be carried out by the program

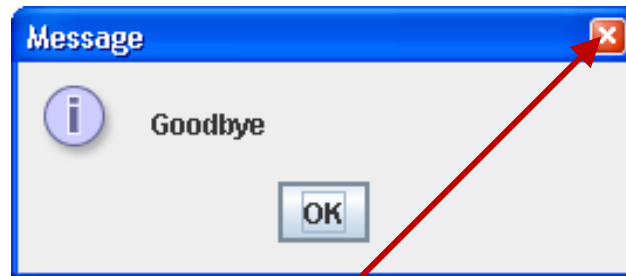


- First a dialogue box pops up asking if the program needs any special launch information

- It does NOT, so just click OK

- The program will start in a new window

- The new window is often BEHIND other windows, so try minimizing if you cannot see your program's window!



- This program automatically exits when you click OK in the Goodbye dialogue box. Other programs may need you to click the usual close box when you have finished trying out the program

End of basic introduction to BlueJ for developing applications