

MODULE 1p - A Directory for Java Files

FIRST TASK

Log in to PWF Linux and check the files in your home directory with an `ls` command. Create a directory for your Java files:

```
c207@pccl504:~> mkdir java
```

Move your Java source code files to this directory:

```
c207@pccl504:~> mv *.java java
```

Remove the other Java-related files from your home directory:

```
c207@pccl504:~> rm Come*
```

Check the entries in the home directory again with an `ls` command and then change to the `java` directory:

```
c207@pccl504:~> cd java
```

Check the entries in the `java` directory with an `ls` command and then inspect the `ComeAgain.java` file with a `more` command:

```
c207@pccl504:~/java> more ComeAgain.java
// JAVA ASSESSED EXERCISES. SUBMISSION 1 FROM F.H. KING.
// Estimated time to complete: 30 mins. Actual time: 1 hour.
```

```
public class ComeAgain
{ private static int n;

    public static void main(String[] args)
    { n = 57;
      System.out.printf("Come in number %d please\n", n);
    }
}
```

SECOND TASK

Both uses of the `static` modifier are essential if the program is to compile and run. Nevertheless one can attempt to compile and run the program when:

1. The first `static` is removed.
2. The second `static` is removed.
3. Both are removed.

Interestingly, in two of the three cases, the program will compile but not run. In the remaining case it won't even compile.

Use emacs to modify `ComeAgain.java` so that these three possibilities are can be tried out in turn. For each, attempt to compile the source and, if this is successful, try to run the compiled code. In each case note just what error messages are given.

THIRD TASK

Use the `cp` command to copy `ComeAgain.java` to `SevenUp.java` as:

```
c207@pccl504:~/java> cp ComeAgain.java SevenUp.java
```

Use emacs to modify `SevenUp.java` so that it is as follows:

```
public class SevenUp
{ public static void main(String[] args)
  { int i, j;
    i = 50;
    j = i + 7;
    System.out.printf("Seven more than %d is %d\n", i, j);
  }
}
```

In this program two local variables are declared in the method `main`. The first, `i`, is set to 50 and the second, `j`, is set to 7 more than `i`.

Compile and run this program.

FOURTH TASK

Modify `SevenUp.java` so that it is as follows:

```
public class SevenUp
{ public static void main(String[] args)
  { int i, j;
    i = 50;
    j = sevenUp(i);
    System.out.printf("Seven more than %d is %d\n", i, j);
  }

  private static int sevenUp(int m)
  { int n;
    n = m + 7;
    return n;
  }
}
```

In this program there is a second method called `sevenUp` (notice the lower-case `s`) which is invoked in the statement `j = sevenUp(i);`

The method gets a copy of `i` in the argument `m` and the method also declares a local variable `n` which is assigned a value seven more than `m` and this value is then returned to the point where the method was invoked and assigned to `j`.

Compile and run this program.

FIFTH TASK

Modify `SevenUp.java` again so that it is as follows:

```
public class SevenUp
{ public static void main(String[] args)
  { int i, j;
    i = 50;
    j = sevenUp(i);
    System.out.printf("Seven more than %d is %d\n", i, j);
  }

  private static int sevenUp(int m)
  { return m+7;
  }
}
```

In this program the method `sevenUp` has been considerably shortened to make it much cleaner.

Compile and run this program.

Conclude this task by inspecting the files in the working directory and then changing to the home directory:

```
c207@pccl1504:~/java> ls
```

```
c207@pccl1504:~/java> cd
```

SIXTH TASK

Work through the FILES AND DIRECTORIES handout, starting from the `pwd` command.

ELECTRONIC MAIL ON LINUX

The mailer or e-mail system is called pine.

Enter the mailer by giving the pine command ...

```
c207@pccl1504:~> pine
```

On entry for the first time, you may be asked a question or two.

Key in N for No.

To send a message ...

From MAIN MENU, WITHOUT pressing Return, key in C (for Compose Message).

Note your neighbour's identifier. Suppose it is c208.

Key this in after To:

Press Return.

Press Return twice more.

Key in Trial after Subject:

Press Return.

Key in a message, a couple of short lines say.

To send the message, key in ^X (meaning Ctrl-X).

Press Return to confirm Y for Yes.

Note that the message is 'copied to sent-mail' (sent-mail is a folder).

To check on sent messages ...

From MAIN MENU, WITHOUT pressing Return, key in L (for Folder List).

Note [Select Here to See Expanded List] in the middle of the window.

Note how pressing the leftarrow-key once or twice and the rightarrow-key once or twice can select (highlight) and deselect [Select Here...]

Ensure that [Select Here...] IS selected then press Return to See the Expanded List.

Note that the sent-mail folder is selected.

Press V (for View Folder); note there is one message called Trial.

Press V (for View Message); you see the full message.

Press M (for Main Menu).

To receive a message (maybe the postbox flag has gone up)...

From MAIN MENU, WITHOUT pressing Return, key in L (for Folder List).

Note INBOX high on the left-hand side of the window.

Note how pressing the leftarrow-key once or twice and the rightarrow-key once or twice can select (highlight) and deselect INBOX. Ensure that

INBOX is selected.

Press Return to view INBOX; note the received message.

Press V (for View Message); you see the full message.

Press O (for Other Commands).

Press S (for Save) to save in the saved-messages folder.

Press Return (for Accept).

Press I (for Index) and note D (message is Deleted from INBOX folder).

Press M (for Main Menu).

To leave Pine ...

Press Q (for Quit) and Return to confirm Yes, then read the information at the bottom of the window.

If you have received a message and didn't save it, you may need to press Return again to save the message in the received folder. The first time you do this, you will need to press Return once more to create the folder.

You may also have to press Return to expunge a deleted message. You will get a Unix prompt after this.