

Informatics 1 — Object-oriented Programming

Programming Exam Instructions

1. The exam lasts two hours. It is an Open Book exam.
2. Place your student identity card face-up on the desk in front of you. The invigilator may come to check your identity, and in this case you may be asked to allow the invigilator to briefly use your computer. The exam time has been calculated to allow time for such interruptions.
3. You may log into your computer as soon as you are ready to do so.
4. To download the exam paper and auxiliary files for the exam, type the following in the terminal window:

```
getpapers
```

This will create a subdirectory `inf1-op-pe1` in your home directory, containing two further subdirectories, `papers` and `templates`. The exam paper itself will be in `papers`. Any auxiliary files for the exam, including tests provided, will be in `templates`.

Do nothing further until the start of the exam is announced!

5. When the start of the exam is announced, go to the directory `inf1-op-pe1/papers` and open the exam paper `paper.pdf` with the standard PDF viewer. **Important:** the directory `inf1-op-pe1/papers` is read-only, so you cannot save your work in this directory. If you choose, you can save your work in the `inf1-op-pe1/templates`; however, this is entirely optional.
6. The directory `inf1-op-pe1/templates` contains files that you will need for the exam.

If you use Eclipse, you should import them as normal, for example:

- Right-click `src` for source files or the `project` folder for data files
- Select `import`
- Select `General - File system`
- Navigate to `..templates` which is the directory to import from
- Select the `.java` source files or `.txt` data files

7. To run the tests you will need JUnit 4. In Eclipse you can add the JUnit 4 library to your project when you create it; alternatively, right click on your project folder, select Build Path - Add Libraries, select JUnit and press Next. Make sure you have version 4 selected and press Finish.

If you want to compile and run your tests on the command line, you will find the necessary `.jar` files `junit-4.12.jar` and `hamcrest-core-1.3.jar` in the directory `inf1-op-pe1/templates`.

Please Turn Over

8. You may use any tools available under DICE. You are recommended to save your work on a regular basis. Compile, run and debug your programs as usual.
9. You must use Java version 1.8.
10. Before submitting your answers, make sure that your `.java` files *compile correctly* and *pass the basic tests provided*.

Note: Before you have implemented any code, the test files provided will, of course, not compile, because they are invoking your methods, which do not yet exist. Therefore, they will be marked with a cross on a red background in Eclipse's Package Explorer. Once you have written your code, the tests should compile, and when you run them they should all pass. However, because these tests are so basic, they do assign variables they do not use, so the test files may still be marked with yellow triangles in the Package Explorer even when your code is perfect.

11. Submit your answers using the command

```
examsubmit FileName.java
```

where *FileName.java* is the name of the required Java source files. You will need to repeat this command for each of the required files. If you get an error, please check carefully that you are using the filenames required in the exam paper and that you are in the same directory as the file.

If you wrote your answers using Eclipse, you will need to first go to the directory in which Eclipse stored your files. This will probably be the directory *HOME/workspace/PROJ/src*, where *HOME* is your home directory and *PROJ* is the name of the project you created when you started your Eclipse session.

If you continue to have problems, please contact one of the invigilators.

Repeated submit commands are allowed, and will overwrite previous submissions. The last file submitted will be the one marked.

12. Java documentation is available by pointing your browser at:

```
file:///group/examreadonly/index-java.html
```

Here you can find library functions, the Java language definition, and the Oracle tutorials. In addition, you will find links to the Inf1OP course lecture materials. You may use any part of the standard Java system and libraries as installed on Dice.

(Note that internet access has been disabled.)

13. When the invigilators announce the end of the exam, you must submit and log out immediately.