Massey University

159.251 Software Design and Construction

Tutorial 7 - Velocity

Prerequisites (what you are expected to know before you do this tutorial)

- 1. everything that was a prerequisite in any of the previous tutorials
- 2. be able to download an open source library, unpack it and add the libraries it to an Eclipse project
- 3. be familiar with how mail merge works in an office package have a look at the following tutorials if you have never used this before:
 - a. MS Office: https://support.microsoft.com/en-us/help/294683/how-to-use-mail-merge-to-create-form-letters-in-word
 - b. OpenOffice/LibreOffice: http://www.openoffice.org/documentation/manuals/oooauthors/Mail-Merge.pdf

Objectives

- 1. be able to use the velocity template engine
- 2. understand the benefits of templating

Description

Download the project **tutorial-template** from Stream and import it into Eclipse. This project contains the following:

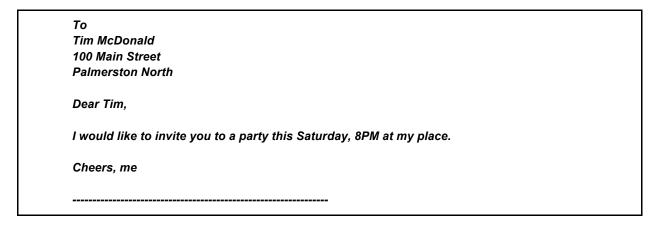
- 1. a file **friends.xml** with data of a group of friends you want to invite to a party
- 2. a package nz.ac.cs.sdc.tutorial7 with classes representing Person, Address and Gender
- 3. the classpath is already configured to contain **velocity** and several libraries velocity depends on check the lib folder for details
- 4. the package **nz.ac.cs.sdc.tutorial7** also contains two other classes you should not use directly but they are left in this package for you to inspect if you are interested:
 - a. CreateSampleData contains a script that is used to create friends.xml
 - b. **TestCreatedSampleData** contains test cases to verify that the test data has been generated correctly
- 5. Before you start, run **CreateSampleData** to regenerate friends.xml

In this package, create a script (= a class with a main method) **PrintInvitations**. This script does

the following:

- 1. it instantiates the other classes in this package from the data in friends.xml
- 2. it prints personalised invitations to the file **invitations.txt** (all invitations go into one file, they could be later separated by age breaks).

Invitation Letter Format (example for first record in the data set):



Use a velocity template to generate these letters!

Hints

- An XMLDecoder can be used to read the data. A brief explanation can be found here: <u>http://docs.oracle.com/javase/6/docs/api/java/beans/XMLDecoder.html</u>
 . Note that the object returned is an instance of List<Person> .
- 2. The velocity developer guide can be found here: http://velocity.apache.org/engine//devel/developer-guide.html
- 3. The velocity user guide can be found here: http://velocity.apache.org/engine/devel/user-quide.html
- 4. Velocity can be downloaded from here: http://velocity.apache.org/

Challenge for good students

- 1. Format the letter generated using html markup.
- 2. Add a salutation (greeting) depending on the gender to the address. For example, "Dear Sir" or "Dear Madam".