

# 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):

*To  
Tim McDonald  
100 Main Street  
Palmerston North*

*Dear Tim,*

*I would like to invite you to a party this Saturday, 8PM at my place.*

*Cheers, me*

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Use a velocity template to generate these letters!

## Hints

1. An XMLDecoder can be used to read the data. A brief explanation can be found here: <http://docs.oracle.com/javase/6/docs/api/java/beans/XMLDecoder.html> . 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-guide.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".