## Massey University

## 159.251 Software Design and Construction

## Template Engines - Velocity

### Prerequisites (what you are expected to know before you come to the tutorial)

1. Be familiar with using git and maven. Be able to download from the maven repository.
2. 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: <http://goo.gl/GmHzF> for MS Office, and <http://goo.gl/DgOZQ> for OpenOffice/LibreOffice.

### Objectives

1. Use the velocity template engine
2. Understand the benefits of templating

### Description

Collect the skeleton code from: <https://github.com/jacobstringer/251-velocity-tutorial>. Inside, you will find:

1. A file **friends.xml** with data of a group of friends you want to invite to a party
2. A package **templatesTutorial** with classes representing **Person**, **Address** and **Gender**包模板具有表示Person、Address和Gender的类
3. The package **templatesTutorial** 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: templatesTutorial包还包含另外两个你不应该直接使用的类，但如果你感兴趣，它们会留在包中供你检查:
   1. **CreateSampleData** contains a script that is used to create friends.xml CreateSampleData包含一个用于创建friend .xml的脚本
   2. **TestCreatedSampleData** contains test cases to verify that the test data has been generated correctly TestCreatedSampleData包含测试用例，以验证测试数据已正确生成
4. Before you start, run **CreateSampleData** to regenerate friends.xml在开始之前，运行CreateSampleData以重新生成friend .xml

In this package, create a script (= a class with a main method) **PrintInvitations**. This script does the following: 在这个包中，创建一个脚本printinvite(=一个带有主方法的类)。该脚本执行以下操作:

1. It uses the data from friends.xml to instantiate the other classes in this package. 它使用来自friends.xml的数据实例化这个包中的其他类。
2. It prints personalised invitations to the file **invitations.txt** (all invitations go into one file, they could be later separated by page breaks) using the Velocity template engine. 它使用Velocity模板引擎将个性化的邀请打印到文件invite .txt(所有邀请进入一个文件，稍后可以用分页符分隔)。

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***  ***----------------------------------------------------------------*** |

### Hints

1. An XMLDecoder can be used to read the data. A brief explanation can be found here: <http://docs.oracle.com/javase/8/docs/api/java/beans/XMLDecoder.html> . Note that the object returned is an instance of List<Person>.可以使用一个XMLDecoder来读取数据。一个简短的解释可以在这里找到:http://docs.oracle.com/javase/8/docs/api/java/beans/XMLDecoder.html。注意，返回的对象是listperson&gt的一个实例。
2. The velocity developer guide can be found here: <http://velocity.apache.org/engine//devel/developer-guide.html> velocity开发人员指南可以在这里找到: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> velocity用户指南可以在这里找到:http://velocity.apache.org/engine/devel/user-guide.html
4. Velocity can be downloaded from the maven repository. Velocity可以从maven存储库下载。

### Challenge for good students

1. Format the letter generated using html markup.
2. Add a salutation depending on the gender to the address.

### What to Submit

The full project zipped up along with the completed invitations.txt. Please run mvn clean before zipping to avoid object files from being transferred, and check that the zipped folder has all the relevant source code and resource files.