Assessment

Task 1 (30 Marks)

Mail merge is a feature within most data processing applications that enables users to generate documents from a single template with a data source that contains information like the recipient's name, address, etc. to be inserted into the template.

	A	B	C	D
1	First Name	Last Name	Street	Years
2	Tom	Boone	35 Second Ave.	15
3	Sally	Brooke	713 Sylvania Ave.	12
4	Robert	Brown	87 Berwyn Ave.	16
5	Jeremy	Hill	567 Butterfly Mead	9
6	Robert	Furlan	34 Watermead, Har	10
7	Ronnie	Anderson	90 Davidson Ave.	15

«AddressBlock»

«GreetingLine»

We thank you for staying with us

over all these «Years» years!

Ronnie Anderson
90 Davidson Ave.

Dear Ronnie,

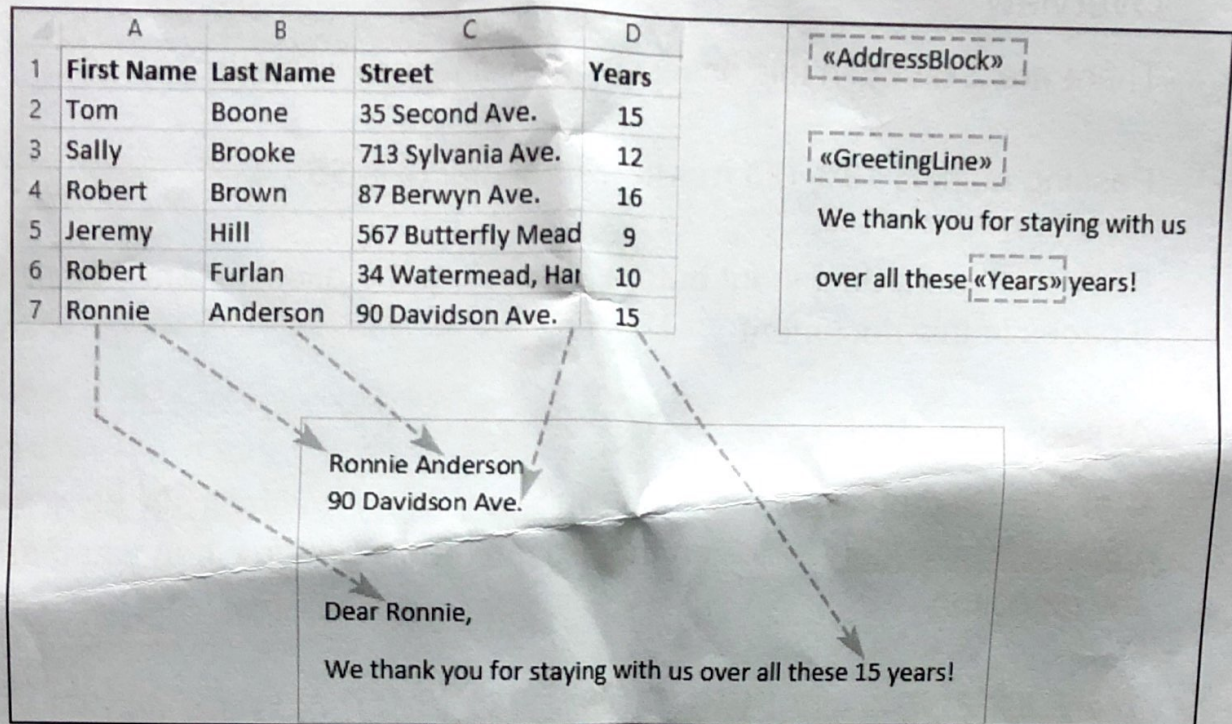We thank you for staying with us over all these 15 years!

Figure 1

The above diagram illustrates how mail merge works. In Figure 1, the data from a spreadsheet (left) is inserted into a template (right) to produce the mail (below center). Each row from the data source will produce a single document created by combining the row data with the template. The mail merge process in Figure 1 will produce 7 mails.

Use Maven to generate a Java project; call the project `task01`. You can use any package name. This should create a directory called `task01` in your repository.

Write a Java program to implement mail merge; you Java program takes 2 parameters from the command line
- CSV (comma separated file) file containing all the data to be merged

- template file to be merged with the CSV data source

The mail merge program should be run in the following way

```
java your.java.Main <CSV file> <template file>
```

Data Source (CSV) File Format

Your Java mail merge should read a CSV file of the following format

- the first row consist of variables names (no spaces) to be substituted into the template
- subsequent rows are the data

The following is an example of the CSV file

```
first_name, last_name, address, years
Sherlock, Holmes, 221b Baker St\nLondon, 22
Harry, Potter, 4 Privet Drive\nLittle Whinging, 2
Holmer, Simpson, 742 Evergreen Terrace\nSpringfield, 10
```

The first line defines the variable name that should be bound to each row; for example if you are reading the third row (Harry), then the following values will be bound to the variables

Variable name	Value
first_name	Harry
last_name	Potter
address	4 Privet Drive\nLittle Whinging
years	2

The values of the variable changes as your program reads each row of the CSV data source.

Template File Format

The template file consists of literal text and variables (defined in the corresponding CSV data source). Variables are prefixed and suffixed with a double underscore (__).

The following is an example of a template file that corresponds to the previous CSV file

```
__address__

Dear __first_name__,

Thank you for staying with us over these __years__.
```

When the template is applied to the third row (Harry) of the CSV file (example above) produces the following text

```
4 Privet Drive
Little Whinging

Dear Harry,

Thank you for staying with us over these 2.
```

Your program should print out the 'filled-in' template after processing every line of the CSV file.

You are provided with 2 sets (template and corresponding CSV data file) of files to test your mail merge program. The invigilator will let you know where to download them.

Assume that there are no errors in the CSV and template files.

IMPORTANT: Your application must <u>work with any CSV data source and template files</u> that conforms to the above given file specification and not just the 2 sets of given samples