

F27SB Software Development 2

OOP Coursework 1: Translation

Improve the Translation system

A) Add another language to the translation system. Make sure that there are at least two words in your new translation map that are also in the **englishToGerman** map and at least two words that are unique. In the **translate** method, make sure that if the English word the user typed in is present in both the **englishToGerman** map and your new map that you give both translation results to the user prefixing them with the name of the language like it is done for the German translation such as this:

Please, type in a single word to translate it.

```
> hello
```

```
GERMAN: hallo
```

```
FRENCH: salut
```

Finally, you will need to alter the **translate** method to make this work. Make sure to translate from English to all languages where a translation exists. If there is no translation, then it should still print an error response.

Hints:

- You can choose the language and words freely (use google translate to help you). Just make sure to fulfil the requirements mentioned above.
- You will need to create a new HashMap like the **englishToGerman** one.
- You will need to declare, initialise, and fill it. You can use a method to fill this like the **fillEnglishToGerman()** one.
- You will need to do some string concatenation to create the final result. To create a new line you can use “\n”.

(Created and initialised new Map: 0.5P,

Altered translate method: 0.5P)

B) Ensure that the same error response is never repeated twice in a row.

Hint: You'll have to somehow remember the previous index that was selected.

(1P)

C) Now we are going to emulate what Google Translate does. Let's assume you would like to translate from Spanish to German. The way Google translate works is that it translates first from Spanish to English and then from English to German. This way, you don't have to have translations from every language to every other language but just from one language to English and from English to another language.

For this task, let's assume that you implemented French in task A. In this task, you will add a third language, e.g. Spanish, but this time, you are going to translate from Spanish to English. You can do this similarly to task 1 but need to switch the keys and values around. Once that is done, we want to translate

not just from Spanish to English but we want to translate from Spanish into all the languages we know. See this example:

Please, type in a single word to translate it.

> hola

ENGLISH: hello

GERMAN: hallo

FRENCH: salut

Hints:

- You will need a new HashMap for the Spanish to English translations.
- You will need to alter the translate method.
- When the user types in a Spanish word, you will need to get the English translation and then use this translation to look up the other translations.

*(Created new Map: 0.5P,
Translating to English: 0.5P,
Translating to all languages: 1P)*

Marking

In each coursework, you can achieve a total of 4 points. Each question awards different amounts of points for different parts of the question. Partial completion of a task will award the partial points listed underneath. Most descriptors of points are self-explanatory in context of the task. Where further clarification is needed, you can find that below.

Your work will be checked by a lab helper during your assigned lab slot. Once all tasks are checked, the points will be used to calculate your marks. Please, understand that the lab helpers are not marking your work but are checking the completion of subtasks. As part of this check, you will need to explain how you solved the given task. **Only successfully completed sub-tasks will award points.** The marks will be released on Canvas after the marking deadline has passed. This is not an automatic process so please, be patient. Once the marks are released, you will be notified via Canvas. Please, **make sure to check your marks as soon as possible**. If there are any issues, please contact your teaching team immediately.

Collusion and Plagiarism

As mentioned above, you will need to explain your work during the demo session in the lab. If you are not able to explain how you arrived at the solution to the task, we need to assume that you did not do the work yourself. We do, however, know that you might be anxious or nervous during the session. Please, rest assured that this is not an interrogation and you can take all the time you need to explain your solution.

If there is reasonable doubt that you solved the given problems yourself, you will not get any points for this task. If there are concrete indications that you copied your answer or colluded with other students, we might also start an official investigation.

Please, make sure to fill and sign the Declaration of Student Authorship form for each coursework and upload it to Canvas. If you do not upload the form, we will not be able to give you any marks for this coursework.

If you feel unjustly accused of plagiarism or collusion, please contact your teaching team.

Coursework submission

Unless stated otherwise, all code parts of your work need to be committed and pushed to your GitLab fork. You need to upload the Declaration of Student Authorship to Canvas, and you need to present your solution to a lab helper. If you fail to do any one of these steps, you will not be awarded any marks.

The deadline for submission can be seen on Canvas. You will need to **present your work to a lab helper any time before the deadline during your allocated lab slot**.

If you do not manage to present your work before the deadline, you can do so at the first lab after the deadline but will incur a 30% late penalty. If this late submission was caused by issues out with your control, you can apply for mitigating circumstances to have this late penalty removed.

If you also fail to present your work at the lab following the deadline, we will not be able to give you any marks for your work. Similarly, if this was caused by circumstances out with your control, you should apply for Mitigating Circumstances.

Please, note that we are not allowed to give individual extensions. If you cannot submit your work on time, you will need to apply for Mitigating Circumstances.