**REPORT LN-MP1**

Group 24:

Mariana Laranjo (92517): 50%

Mariana Serrão (105045): 50%

We divided the amount of work we had to do in half, so each of us spent the same amount of time on the project.

**Description of our options**

To build the metaphoneLN transducer, we decided to use the fstcompose operation, starting with step1 and step2, then the composition of the two composed with step3 and so on.

To build the invertMetaphoneLN transducer, we simply used the fstinvert operation on the metaphoneLN, so that we would have the opposite transducer.

We used a for loop on the run.sh file to do these operations with greater efficiency.

**Viability of our solution**

After testing the metaphoneLN several times with different examples, we can say that our transducer does everything it was required to do. These steps were also tested individually with all the examples given to us to make sure every rule was working.

**Usability of the invertMetaphoneLN**

Ideally, the invertMetaphoneLN would take the output of the metaphoneLN and give us back its input, but in practice, this does not happen. Because the last step of our metaphoneLN transducer is to take out all the vowels in the middle or end of the word, when the invertMetaphoneLN does that last step, it does not know which vowels were taken or where they were in the word, so it doesn’t put back those vowels. In addition, it takes every consonant in the word and duplicates it, because the first step of metaphoneLN is to remove duplicate consonants, except for C.

We tested the invertMetaphoneLN with both our names and confirmed what we described in the previous paragraph, which means that the transducer is functional.

Although the invertMetaphoneLN is correct, it has no usability, because it cannot convert its input back to the input of the metaphoneLN.