Natural Language

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Report - 1st Project

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Group Nº 6	Numbers	Contribution (%)
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The project was carried out together, so the contribution was the same for both group members.

Initially, it was created two base transducers to easier elaborate the transducers that were required. These are ***day_number.fst*** and ***year_number.fst,*** created to recognise the days and the years respectively, both in numeric form. These two were concatenated to create ***day_year.fst***, useful because some transducers only change the month, keeping day and year unchanged.

Once created the requested transducer in a.1 (***mmm2mm.fst*** – changes the month from the condensed format into the correspondent number), we were able to create a.2 (***mix2numerical.fst***). The latter is the result of ***mmm2mm.fst*** concatenated with ***day_year.fst*** transducer (which keeps day and year unchanged, as referenced before).

To complete topic b, it was created an auxiliary transducer called ***month_pt2en.fst***, which converts the condensed format of the months from Portuguese to the same format in English. Then, b.3 (***pt2en.fst***) is the result of the concatenation of this auxiliary transducer with ***day_year.fst***. For b.4 (***en2pt.fst***) we inverted ***month_pt2en.fst*** (generating a transducer that converts the month in English to Portuguese) and concatenated with, yet again, ***day_year.fst***.

To achieve c.8 (***datenum2text.fst*** – converts the date in numerical format into text) it was necessary four operations: 1. Concatenate transducer c.6 (***month.fst*** – converts the month in the condensed format to the corresponding text) with ***rm_slash.fst***, which removes the slash between the month and the day; 2. Concatenate the previous result with c.5 (***day.fst*** – converts the day into the corresponding ordinal text); 3. Concatenate the latter with an auxiliary transducer ***comma.fst***, which receives the slash between the day and the year and writes a comma; 4. Concatenate the result with c.7 (***year.fst*** – converts the year into the corresponding text).

In order to create d.9 (***mix2text.fst***), it was composed ***pt2en.fst*** with ***mix2numerical.fst***, producing a transducer that converts the month from the condensed format in Portuguese into the correspondent number, keeping day and year unchanged; Then, it was united with ***mix2numerical.fst***, so we can have both Portuguese and English conversions into numerical; Finally it was composed with ***datenum2text.fst*** so the result transducer can convert the date in Portuguese or English into the text format.

Finally, to create d.10 (***date2text.fts***), it was united ***mix2text.fst*** to **datenum2text.fst**, so the conversion includes both English and Portuguese, as well as the numerical case, into text.

To test our final transducer, some tests have been added: some of them will print the conversion result to the terminal, others will generate new transducers with the conversion result (t*-out.fst).