Assignment #1

Date Due: February 13, 2026

Total: 100 marks

Instructions

- Submit all program code and any relevant output from program testing.
- Combine all your files into a single a compressed file. Please use a filename which includes your UPEI username and is of the form: username_ast1.tar.gz; submit the targzip file via moodle.

  Each program includes beside the source code an executable Readme file which will run all examples automatically and a run.txt file containing the demo of the execution, for each test.

Requirements

The task is to develop the following tools:

1. (30 marks) a general pushdown translator processor written in C/C++.
2. (30 marks) a general finite translator processor written in C/C++.

The program should be able to accept as input a translator in Grail-like format and translate various strings matching the input alphabet (30 marks).

The translated strings will represent an intermediate format.

A test includes a description of a transducer and several input strings translated.

The programs should be able to run all examples from the slides.

The demonstration of a working test is 5 marks. You need to include up to 5 tests / transducer type.