Assignment 4

Overview

This assignment satisfies the following learning objectives of the course:

- Push Down Automata
- Convert CFG to PDA

Rules and Deliverables

- This is an individual assignment.
- The assignment is due on **Tuesday 10/29/24 at 11:59 pm**
- Submitting the assignment 24 hours after the due date will result in a deduction of 20% from the student's grade.
- Each student should submit the answer in PDF format on Canvas.
- Students are responsible for submitting all the files before the due date.
  Please check the submitting files to make sure all the answers are submitted correctly.

Assignment Description

1. Find Push Down Automata and Context Free Grammars for each of the following languages. To find the PDA do not convert CFG to PDA. (20 points)

   - $L = \{a^n b^m \mid n > m\}$

   - $A = \{ 0^i 1^{i+1} \mid i \geq 0 \}$

2. Convert the following Context Free Grammars to equivalent Push Down Automata. (10 points)

   - $S \rightarrow AS \mid \varepsilon$
     $A \rightarrow 0A1 \mid A1 \mid 01$

   - $E \rightarrow E + T \mid T$
     $T \rightarrow T \times F \mid F$
     $F \rightarrow (E) \mid a$