CS421 THEORY OF COMPUTING
Programming Assignment 2 Individual Assignment
Due Monday May 8, 2017

Task: Implement a parser that processes sequences of correctly paired **if**s and **else**s in a C++ program. There may be **if**s without **else**s, but not **else**s without **if**s. **if**'s may appear within blocks and your parser must correctly pair them with an **else**(s) if any. Your parser **must simulate a PDA**.

Specifications for the implementation follow:

- You must simulate a PDA to parse the sequences of correctly paired **if-else**.
- In addition, give the context-free grammar to generate these sequences.
- You can use C, C++ or Java to implement your parser, but make sure that your program compiles and runs in either linux as installed on empress, or windows as installed on CSUSM PCs.
- **Input to the parser:** A file with the sequence of**if**'s and **else**'s. The input file must be called **sequence.txt**.
- **Output:** Display the message **Correct sequence** if the sequence is accepted by the PDA, or display the message **Sequence is syntactically incorrect** if the sequence is NOT accepted by the PDA.
- Document your program.
- Type one page describing the design and implementation of your parser in terms of PDAs terminology and describe the context-free grammar to generate such sequences.

Deliverables due on Monday May 8 at the beginning of class or earlier

- Submit via Cougar Courses a zip file called *yourlastname*.zip that includes the following:
  - Source program;
  - Executable/Runnable; and
  - README.txt file describing how to compile and run your program.
- Turn in a hardcopy of the design and implementation of your parser as a PDA and the context-free grammar to generate correctly paired if-else sequences. Hand-written submissions will not be graded.