

University of Nevada, Las Vegas Computer Science 456/656 Fall 2021

Assignment 6. Due Monday November 8, 2021

Name: \_\_\_\_\_

You are permitted to work in groups, get help from others, read books, and use the internet.

1. Read Parsing Handout 1, which is in the file `1alrhandout1.pdf`.
2. Work problems 1, 2, 3, and 4 on page 2 of that Parsing Handout 1.
3. The remaining questions deal with Parsing Handout 2, which is in the file `1alrhandout2.pdf`. Read that handout carefully.
4. Sketch the parse tree for  $a + a + a * a * a$ .
5. On page 6, there are completed ACTION and GOTO tables for the grammar given on page 1. Walk through the steps of the parser for the input file  $(a + a) * a + a$ .
6. Sandy Redrock, my colleague at Xanthe Terra University, has told me that addition has precedence over multiplication on Mars, and that furthermore, both addition and multiplication are right associative.
  - (a) Sketch the Martian parse tree for  $a + a + a * a * a$
  - (b) Write the Martian version of the Action table for our grammar. It differs from the Earthly version in only four places.