

## CECS 424 Assignment 2

Financial quantities in American notation. These have a leading dollar sign (\$), an optional string of asterisks (\*—used on checks to discourage fraud), a string of decimal digits, and an optional fractional part consisting of a decimal point (.) and two decimal digits. The string of digits to the left of the decimal point may consist of a single zero (0). Otherwise it must not start with a zero. If there are more than three digits to the left of the decimal point, groups of three (counting from the right) must be separated by commas (,). Example: \$\*\*2,345.67. (Feel free to use “productions” to define abbreviations, so long as the language remains regular.)

Use the following expressions only:

- i. A character
- ii. The empty string
- iii. Parenthesis
- iv. Concatenation
- v. ‘or’
- vi. Kleene star. (Please use superscript star symbols, <sup>\*</sup> )

**Solution**

Digit = [0|1|2|3|4|5|6|7|8|9]

Nonzero = [1|2|3|4|5|6|7|8|9]

\$ ( <sup>\*</sup> )<sup>\*</sup> ( 0 | ( nonzero digit digit | nonzero digit | nonzero ) ( , digit digit digit )<sup>\*</sup> ) (  $\epsilon$  | . digit digit )