Name: Geoffrey Corey
Date: 2/1/14

Milestone Report

Handwritten Answers to Milestone Questions:

Specification (what do <u>you</u> think the purpose of this milestone is)

The purpose of this milestone is to get us to understand how lexical analysis works and to begin planning how we will save the information read in my the lexer to be used later in the parser to validate input and well as transform the input code into the output code.

Processing (how did <u>you and/or your team</u> go about solving the problem)

To go about this milestone, I created some python functions that parsed command line input to open a file and read it. I then took each line of the file that was read in and checked each character to see if it matched one of the rules setup to determine the token it received. Once I knew where in the large chain of if statements I was, I then checked to see if the input was valid for that token type (i.e. is the '-' a symbol or part of a number, check to see if the read in real was really a real number, or just looked real up to that point, checking against the keywords to see if it's a string or not, etc). Once I had read the entire and was able to put each thing into its respective token category, I printed out the list of tokens and their respective values to compare it to the input.

Testing Requirement (how did <u>you and/or your team</u> test for correctness)

To test for correctness, I would type in examples of valid numbers, key words, and

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strings to verify that the parser would see those and tokenize them in the correct categories. If the lexer found something it could not except (because it was not in the language), it would print out what it had read so far from the string + 1 char and then print out the line and column number and quit.

Retrospective (what did <u>you</u> learn in this milestone)

Mostly that regular expressions are hard (even when using built-in libraries, it's easy to makes mistakes), and that a lexer really shouldn't be doing anything to validate semantics or medium to advanced syntax checking, only that what is read is in the language.

Team Evaluation (what is the percentage of time contributed by each team member)

N/A as I worked on this assignment myself.

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Milestone 2 — Geoffrey Corey

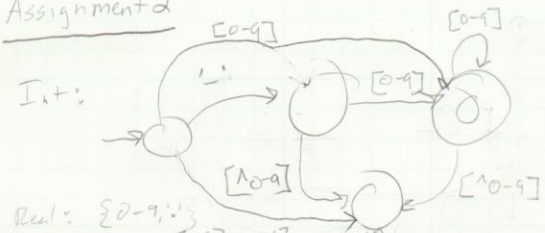
Assignment 1

Tokens:
- Lbracket
- Rbracket
- Keyword
- Symbol
- Real
- Integer
- ID
- String
- TYPE

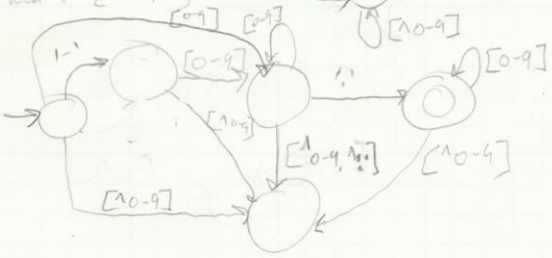
Data structure: Dict for the types, python list for storing all the tokenized values

Assignment 2

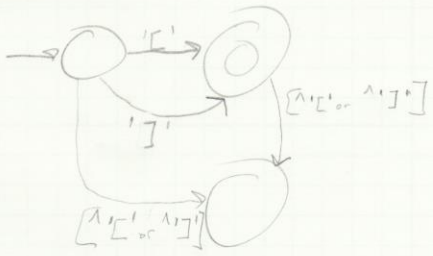
Int:



Real: {0-9,'.'}



Bracket:



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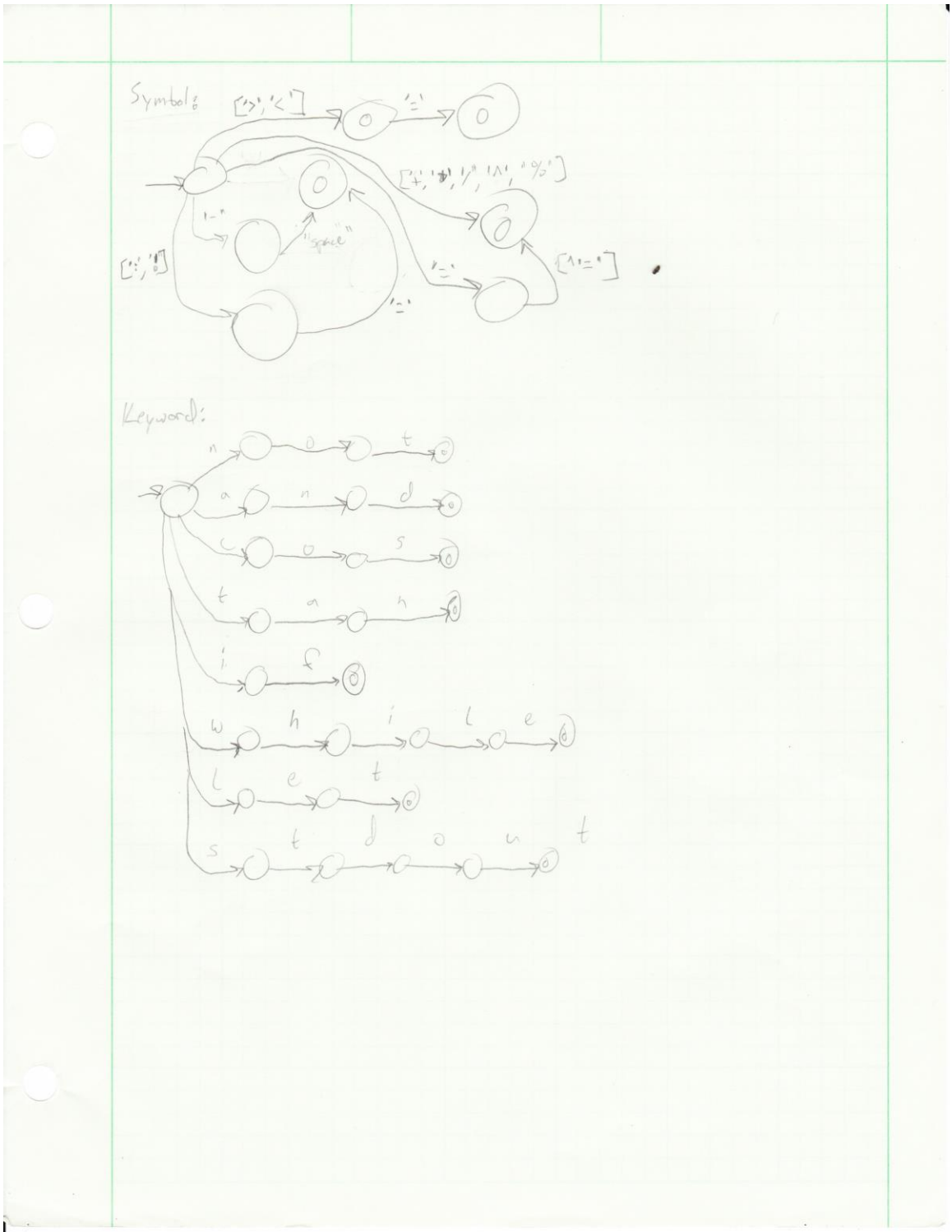

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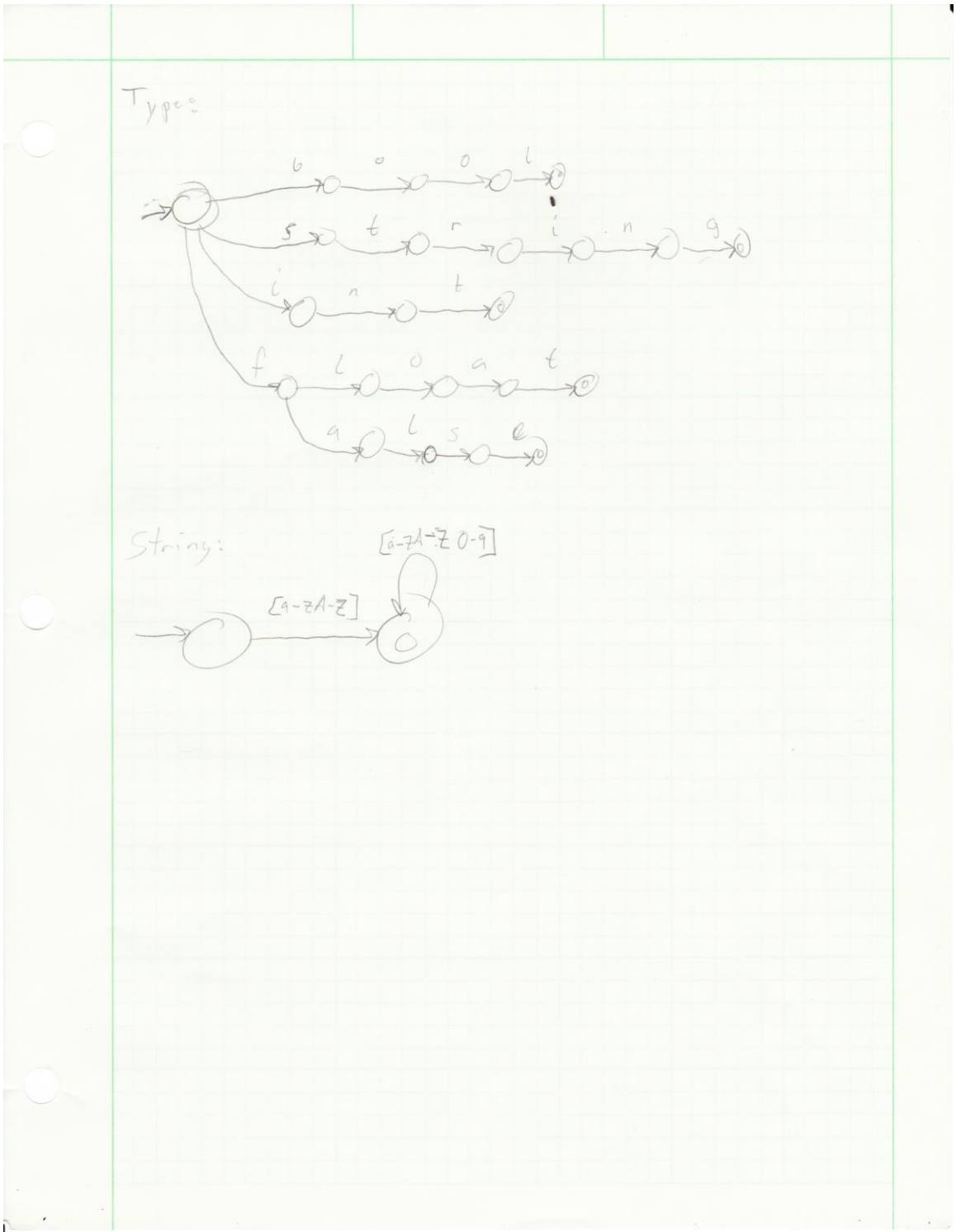

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