**CS323 Assignment Documentation**

**1.**    **Problem Statement**

What is expected out of this assignment is to build a parser, and use the lexer from the first part. Then to use the parser to analyze the tokens and output the according production rules.

**2.**    **How to use your program**

Download the zip, the unzip it. Locate where the debug folder is then using the command prompt screen use cd to reach the directory where the debug file is located. Then go into the debug folder using the command prompt, after that type Parser.exe<test1.txt to run the program.

**3.**    **Design of your program**

We used 2D array for state table it has

There are also a few function inside the Parser class that are used:

* getNewState returns a new state from the table.
* lookAhead looks at the next Char character to see if it is going to be and identifier, digit, or float.
* isAcceptingState checks to see if the state is and accepting state based on the character.
* needsBackup checks to see if the state needs to go back.
* isKeyword checks to see if the lexeme is a keyword.
* getKeywordId returns the keyword id so it can be used for display.
* getTokenId gets the token id so it can be later used for display.

**4.**    **Any Limitation**

None.

**5.**    **Any shortcomings**

Does not parser correctly a fatal error occurs.

Test Cases

**Test case 1**

integer a#, b, c#d, efgh#ij;

integer low = 22;

integer high = 40;

float number;

read(float);

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**Test case 2**

%%

if ( low > float )

{

write(float);

}

fi

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**Test Case 3**

if (low < high)

{

a# = low + high;

c#d = high - low;

}

fi

if ( low > high)

{

c#d = low - high;

efgh#ij = low \* high;

}

fi

return 0;