Mini Assignment - 3
Compilers - CS3320

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Features of JavaScript:

- The railroad diagrams describing the grammar allow easy visualization of whether a code snippet belongs to the grammar or not, as we can almost always immediately tell which branch to take upon reading the tokens linearly.
- Using block comments (/* */) in JavaScript to comment out code can be dangerous as these pairs can also appear in regular expressions, for example when specifying file paths.
- JavaScript does not have multiple data types for numbers such as int, uint, float, double, long, etc. All numbers are internally represented as a 64 bit double value. This is very convenient for the programmers as we don't have to worry about type errors or overflows w.r.t. numbers now.
- Also, as JavaScript doesn't have ints, we don't have integer division either(the whole number obtained on division being returned). I.e the '/' operator always gives the exact quotient.
- In JavaScript, the value NaN is used to describe the result of operations that do not give normal results. Hence for operations such as 0/0, we get the result NaN instead of segmentation fault/infinity, etc.
- JavaScript has a Math object by default(without including any libraries) which allows many convenient methods and constants regarding numbers.

- Strings in JavaScript can not be changed once defined, unlike other languages where strings are an array of characters whose individual characters can be edited.
- Each .js file called by the <script> tag delivers a compilation unit(which is a set of executable statements), which are compiled and executed immediately.
- Unlike some other languages, enclosing code in curly braces doesn't change the scope of the code. Hence the variables defined anywhere inside a function can be used anywhere after it has been defined, but not outside its function.
- JavaScript has a for in loop that iterates over the property names of an object.
- In JavaScript, the operators to check equality and inequality respectively are === and !==, compared to other languages which use == and !=.
- The prefix operator typeof returns 'number', 'string', 'boolean', 'undefined', 'function', or 'object'. I.e. there are no other “data types” such as pointers or user defined structs/classes.
- JavaScript supports regular expressions which allow many powerful operations.
- JavaScript doesn't use a linker, and hence heavily relies on global variables. Also, JavaScript has class free objects, i.e. objects can be defined by simply listing their components, unlike some other classical languages.