CS200 Spring 2017 homework 1

name:
id:

1. Given the following grammar for identifiers (Id):

```
 Id  = Let |  Id Let | Id Dig
Let  = a | b | c
Dig = 0 | 1
```

write a regular expression defining identifiers

2. Given the following two grammars for matching parentheses

Grammar 1: S = ( ) | (S)

Grammar 2: M = ( ) | (M) | M M

2a. Show a derivation of ((( ))) using Grammar 1, starting with S

2b. Show a derivation of (( )) ( ) using Grammar 2, starting with M

2c. Is (( )) produced by

1. Grammar 1? (Y/N)

2. Grammar 2? (Y/N)

2d. Is (( ) ( )) produced by

1. grammar 1 ? (Y/N)

2. grammar 2 ? (Y/N)

3. Complete the following table, keeping the operands in the same order

Prefix expression	Infix expression	Postfix expression
* + a b c	(a+b) * c	a b + c *
	a - b - c	
* / a b + c d		
		a b c d - - *
	true or true and false	